Materials for a Flora
of Central Yukon Territory

National Museum of Natural Sciences
Publications in Botany, No. 4

Published by the
National Museums of Canada

Staff editor
Frances Smith

Musée national des Sciences naturelles
Publications de botanique, nº 4

Publié par les
Musées nationaux du Canada

Materials for a Flora of Central Yukon Territory

A. E. Porsild

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National Museum of Natural Sciences
National Museums of Canada
Ottawa, Canada
First quarter 1975

Catalogue No. NM95-9/4

Available by mail
from the
National Museums of Canada
Marketing Services
Ottawa, Ontario
K1A 0M8

P0987654321
Y798765

Printed in Canada

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Musée national des Sciences naturelles
Musées nationaux du Canada
Ottawa, Canada
Premier trimestre 1975

Nº de catalogue NM95-9/4

L'éditeur remplit les commandes postales
adressées aux
Musées nationaux du Canada
Service de distribution
Ottawa, Ontario
K1A 0M8

T0987654321
A798765

Imprimé au Canada

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Résumé

L'inaccessible forteresse montagneuse située au nord de la Colombie-Britannique et au Yukon est demeurée longtemps l'une des moins connues des régions du Canada. Il existe maintenant des cartes exactes, tracées à l'aide de photographies aériennes, de certaines parties de ce territoire, mais l'absence de chemins et de lieux d'atterrissage convenables, même pour de petits avions, ont rendu très difficiles l'exploration de cette région et l'étude de sa faune et de sa flore.

Depuis 1944, plusieurs réalisations de voirie importantes ont permis d'atteindre certaines contrées montagneuses qui jusque-là n'étaient accessibles qu'aux expéditions munies de bêtes de somme. Ces lieux se situent en partie au sud-est du Yukon, en bordure de la route Canol, et en partie le long des tronçons de la route de l'Alaska traversant le même territoire (voir la bibliographie).

L'étude se rapporte principalement à la flore des monts Ogilvie devenus accessibles depuis la construction de la route Dempster, commencée en 1962 et qui réunira éventuellement le centre du Yukon avec Inuvik et le delta du Mackenzie.

L'ensemble des renseignements compilés provient des collections d'herbier faites principalement dans les monts Ogilvie. Parmi les 428 espèces de plantes vasculaires que l'auteur énumère ou décrit, 11 seraient des taxa nouveaux, 6 apparaîtraient pour la première fois dans la flore du Canada, une serait une addition nouvelle à la flore de l'Amérique du Nord et au moins 38 se trouvent notées pour la première fois en provenance du Yukon.

Summary

The mountain fastnesses of northern British Columbia and Yukon Territory have long remained among the least known parts of Canada. Accurate maps constructed from aerial photographs are now available for some of these parts, but the absence of roads and the scarcity of suitable landing places, even for small aircraft, have made ground exploration, including the study of plant and animal life, difficult.

Since 1944, several major road projects have given access to mountainous regions in the Yukon hitherto accessible only by packhorse trails. Among these regions are parts of southeastern Yukon adjacent to the Canol Road, as well as portions of the Yukon section of the Alaska Highway (see Bibliography for additional references).

The present report deals mainly with the flora of the Ogilvie Mountains, now made accessible by the construction of the Dempster Highway, which was started in 1962, and when completed will connect central Yukon with Inuvik in the Mackenzie Delta.

The bulk of information reported in the catalogue following has been obtained from collections of plants mainly from the Ogilvie Mountains. Among the 428 species of vascular plants listed or discussed, 11 are believed to be "new" or heretofore unrecognized taxa; 6 are believed to be "new" to the flora of Canada; one is "new" to the flora of North America; and no less than 38 are reported for the first time from the Yukon Territory.

Preface

When the Dempster Highway in the Yukon Territory is completed, it will provide access to what is probably the largest remaining botanically unexplored part of Canada.* Only the area adjacent to the southern part of the highway has been partly explored botanically, and the results reported in this paper indicate that the flora of the central and unglaciated Yukon Plateau† is rich and, phytogeographically, very interesting.

Construction of the Dempster Highway was started in 1962. When completed, it will connect central Yukon with Inuvik on the east channel of the Mackenzie Delta, a distance of roughly 400 miles. The Dempster Highway branches off the main Dawson–Whitehorse Highway 26 miles east of Dawson. For approximately 44 miles it follows the wooded North Klondike River valley, climbing to about 4,000 feet in the North Fork Pass, which is on the watershed between the Yukon and Mackenzie drainages. From the pass there is an impressive view of some of the highest peaks of central-eastern Yukon Territory. Northeast of the pass is "Sheep Mountain" (elevation 6,650 feet), and beyond it the slightly lower "Herringbone Mountain". Beyond the pass, the highway descends to approximately 3,500 feet into the valley of an unnamed minor tributary of the Blackstone River that joins the main Blackstone River near Chapman Lake at Mile 68. The floor of both valleys is unforested, but here and there, in sheltered places, solitary, stunted white spruce may be seen.

The upper slopes and the summits of "Sheep" and "Herringbone" mountains, the lower slopes of mountains to the west of the valley, the gravelly river flats and river meadows, and the bogs, small lakes and ponds, provide an abundance of rich and varied plant habitats.

In 1964 P.M. Youngman, zoologist with the National Museum of Canada, assisted by Gaston Tessier, made incidental collections of plants — chiefly those that serve as food for small mammals — in the vicinity of Miles 54–55 of the Dempster Highway. Among the plant material that they brought me, I discovered fragments of *Draba sibirica* (Porsild 1964*a*), which is regularly gathered by the singing vole (*Microtus miurus*). At that time, *Draba sibirica* was "new" to the flora of North America, its nearest known station being 1,600 miles to the west, on the Kolyma River of eastern Siberia. Subsequent and more ample collections by Messrs. Youngman and Tessier, and later by my brother, Mr. R.T. Porsild of Whitehorse, Yukon Territory, proved *D. sibirica* to be very common locally in the rich alpine and subalpine herbmats along the Dempster Highway between Miles 50 and 58.

In preparation for his new *Flora of Alaska and Neighboring Territories*, Eric Hultén (1966:315) reported a brief visit to the Ogilvie Mountains of central Yukon Territory at approximately Miles 50–54 on the Dempster Highway. In 1967 he discussed at some length "changes in nomenclature or conception in the forthcoming 'Flora' as compared to the earlier 'Flora' [*Flora of Alaska and Yukon*, 1941–50], and also additional taxa discovered in the time between publication of the two works" (Hultén 1967:1). However, he did not attempt to document all the new stations or changes that were to appear in the new or revised distribution maps of his new *Flora*. In regard to the Yukon Territory, some of the "new" dots are presumably based on Hultén's own, but otherwise unreported, collections in the Ogilvie Mountains. However, a great many range extensions, thus far not documented, are reported in the present paper by citation of specimens. The majority of these specimens were collected by Mr. R.T. Porsild, and are now deposited in the National Herbarium of the National Museum of Natural Sciences, Ottawa.

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* For a history of botanical exploration of the Yukon Territory prior to 1944, see Porsild 1951*a*: 21–26.

† For a glacial history of central Yukon Territory, see Bostock 1966.

In 1966, 1967, and 1968, R.T. Porsild, while under contract with the National Museums of Canada, collected vascular plants in central Yukon. In 1966 and 1968 he collected plants mainly in the parts of the Ogilvie Mountains then accessible from the Dempster Highway, of which the first 89 miles had been completed. Most of the summer of 1967 was spent in the Mayo district, where special attention was paid to the still largely unexplored alpine floras of Keno Hill and Mount Haldane (both somewhat isolated mountains, or mountain massifs, slightly over 6,000 feet high) and to the remarkably rich and also unexplored floras of adjacent ponds, lakes, and bogs.

The collections made during those three summers total 1,871 numbers, most of them with abundant and excellent duplicate material. Of this total, 1,057 are from the Ogilvie Mountains adjacent to Miles 44–89 on the Dempster Highway, mainly from elevations of 3,500 feet at road level, and from 6,000 to 6,500 feet on mountains east and west of the highway.

In addition to regular collections for the National Herbarium of Canada, Mr. R.T. Porsild brought back a number of photographs and numerous samples of seeds from which chromosome counts were obtained for 58 taxa, of which 21 were previously unknown (Mulligan and Porsild 1969, 1970).

During the three summers, Mr. Porsild was accompanied by his wife, who assisted him in collecting and preparing the specimens, and undertook the responsibility of drying and caring for them.

From 3 to 12 July 1970, I accompanied my brother to sites along the Dempster Highway and in the Mayo district, where he had made major collections in 1966, 1967, and 1968. Following these visits, a few days were spent examining the rather different flora of the limestone formation, which, beyond Mile 89, overlays the crystalline and volcanic rocks exposed along the southern and central parts of the Ogilvie Mountains. Collections made then, chiefly near Miles 110–112, added a number of species not observed elsewhere along the Dempster Highway (Porsild 1972).

The 428 taxa listed and discussed in the catalogue following include some that are believed new to science, some that are new to the flora of Canada or to the Yukon Territory, as well as a large number that are rare or have not been reported previously from the central Yukon Plateau.

The bulk of the information reported herein has been obtained from the rich collections of R.T. Porsild, made in the years 1966, 1967, and 1968. In addition, some important range extensions are reported, obtained from a few other collections submitted to me for determination, and now deposited in the National Herbarium of Canada. The more important of these, mainly from northern or central Yukon, were contributed by Dr. A.M. Pearson of the Canadian Wildlife Service, Mr. P.M. Youngman of the National Museums of Canada, and Mr. Gaston Tessier of the Canadian Wildlife Service, formerly of the National Museums of Canada.

Abbreviations following a collector's field number or a herbarium accession number indicate the herbarium in which the specimen is deposited.

CAN	National Herbarium of Canada, Ottawa
DAO	Canada Department of Agriculture, Ottawa
LCU	Catholic University of America, Washington, D.C.
NY	New York Botanical Garden, New York
S	Botanical Museum, Stockholm, Sweden
US	U.S. National Herbarium, Washington, D.C.

Where no collector's name is given, the specimens cited are from the collections of Mr. R.T. Porsild of Whitehorse, Yukon Territory. Unless otherwise stated, all specimens cited in this paper are in the National Herbarium, National Museum of Natural Sciences, Ottawa (CAN).

The following 11 taxa are believed to be new or heretofore unrecognized: *Calamagrostis Robertii* n. sp., *Trisetum spicatum* f. *viviparum* n. forma, *Melandrium apetalum* ssp. *ogilviense* n. ssp., *Pulsatilla ludoviciana* f. *glabrata* n. forma, *Papaver alaskanum* f. *stenopetalum* n. forma, *Draba yukonensis* n. sp., *Lomatogonium rotatum* ssp. *tenuifolium* f. *albiflorum* n. forma, *Pedicularis lanata* ssp. *yukonensis* n. ssp., *Antennaria Ellyae* n. sp., *Erigeron grandiflorus* ssp. *arcticus* n. ssp., and *Taraxacum mackenziense* n. sp.

The following 6 taxa are believed to be new to the flora of Canada: *Polygonum O'Neillii, Claytonia arctica, Papaver Walpolei, Taraxacum carneocoloratum, T. mauroleplum,* and *T. mitratum. Draba barbata* is new to the flora of North America.

And, finally, the following 38 taxa are new to the flora of Yukon Territory: *Potamogeton foliosus* var. *macellus, Scheuchzeria palustris, Calamagrostis purpurascens* ssp. *Maltei, Poa Porsildii, Carex atherostachya, C. chordorrhiza, C. Heleonastes* ssp. *Heleonastes, C. holostoma, C. lasiocarpa, C. laxa, C. misandra, C. norvegica, Juncus stygius* ssp. *americanus, Luzula groenlandica, Tofieldia glutinosa, Spergularia rubra, Stellaria Alsine, Caltha natans, Ranunculus natans* var. *intertextus, R. septentrionalis, Braya glabella, Cardamine microphylla, Draba exalata, D. fladnizensis, D. Macounii, Smelowskia calycina* var. *media, S. calycina* var. *Porsildii, Medicago falcata, Oxytropis Jordalii, Epilobium arcticum, Myriophyllum verticillatum, Cicuta bulbifera, Phlox alaskensis, Antennaria densifolia, A. neoalaskana, Arnica diversifolia, Erigeron linearis* and *Aster pansus.*

Annotated List of Selected Species

POLYPODIACEAE

Cryptogramma Stelleri (S.G. Gmel.) Prantl
Ogilvie Mountains: In rock crevices by a lake west of Dempster Highway, Mile 58, Nos. 325 and 358; on moist shaded rock ledges, Miles 54–55, No. 1839; on moist shaded ledges west of Dempster Highway, Mile 100, No. 1711. A rare species in Yukon, where it has been collected twice before, near Dawson (Porsild 1951*a*).

Cystopteris montana (Lam.) Bernh.
Ogilvie Mountains: Dempster Highway, Mile 100, on moist rocky ledges under *Alnus crispa*, No. 1708; the present collection extends the known northern range in Yukon by approximately one hundred miles (Porsild 1966: map 1).

Dryopteris Robertiana (Hoffm.) C.Chr.
Stewart Plateau: Mayo, on shady rock ledges of canyon below water reservoir, elevation 1,900 ft, No. 1011; in rocky scree above highway between Mayo and Elsa Mine, approximately 63°45′N, 135°45′W, A.E. & R.T. Porsild, No. 23,562. Ogilvie Mountains: Dempster Highway, Mile 100, on rocky slope under *Alnus crispa*, Nos. 1706 and 1710. In Yukon otherwise known from a few early collections near Dawson.

Woodsia alpina (Bolton) S.F. Gray
Ogilvie Mountains: Cliffs in canyon east of Dempster Highway, Miles 50–54, No. 97; on dry, rocky ledges of mountain east of Mile 51, No. 1578 (Porsild 1951*a*).

OPHIOGLOSSACEAE

Botrychium Lunaria (L.) Sw. var. ***minganense*** (Vict.) Dole
Stewart Plateau: Vicinity of Mayo on river terrace with *Potentilla anserina*, No. 698 (Porsild 1966:11).

EQUISETACEAE

Equisetum hiemale L. var. ***californicum*** Milde
Stewart Plateau: Vicinity of Mayo, along road to Moose Creek, No. 991. In Yukon otherwise known from Mount Gray near Whitehorse, No. 1326, and from Dawson (Porsild 1951*a*).

Equisetum palustre L.
Common in rich meadows along Dempster Highway, Miles 96–98, No. 1725; in damp, calcareous tundra south of Dempster Highway, near Mile 110, approximately 66°40′N, 128° 00′W, A.E. & R.T. Porsild, No. 23,588. The last station extends the known Yukon range of this species by about 100 miles.

Equisetum pratense Ehrh.
Old Crow River near mouth of Johnson Creek, elevation 800 ft, Youngman & Tessier No. 635; Mayo 63°35′N, 135°54′W. Common in open woods near public camp grounds, A.E. & R.T. Porsild, No. 23,580.

Equisetum scirpoides Michx.
Ogilvie Mountains: Dempster Highway, Mile 110, in damp tundra at foot of limestone hills, 66°40′N, A.E. & R.T. Porsild, No. 23,589. The collection closes a gap between the Dawson area and the Old Crow Flats.

Equisetum sylvaticum L.
In southeastern Yukon I noted (Porsild 1951*a*) that on Precambrian rocks along the Canol Road all *E. sylvaticum* observed had smooth branches and thus belonged to var. *pauciramosum* Milde. In the present collection *E. sylvaticum* is represented by 4 numbers, all from the general vicinity of Mayo. In Nos. 510 and 910 from Minto Road, the internodes of the main stems and the branches are strongly scabrous and thus represent typical *E. sylvaticum*, whereas in Nos. 499 and 818 from lakeshores and swampy flats north of Mayo and from Hunker Creek near Dawson, No. 1400, the internodes and branches are smooth and, accordingly, should be referred to var. *pauciramosum*.

Equisetum variegatum Schleich.
Ogilvie Mountains: Dempster Highway, Mile 110, in damp tundra at foot of limestone hills, 66°40′N, A.E. & R.T. Porsild, No. 23,590. The collection closes a gap in the known distribution of the species between the Dawson area and the Arctic Coast.

LYCOPODIACEAE

Lycopodium clavatum L. var. ***monostachyon*** Grev. & Hook.
Keno Summit, 63°58′N, 135°42′W, in open willow thickets, A.E. & R.T. Porsild, No. 23,881.

Lycopodium Selago L.
Ogilvie Mountains: Dempster Highway, Mile 110, in damp tundra at foot of limestone hill, A.E. & R.T. Porsild, No. 23,591.

SELAGINELLACEAE

Selaginella selaginoides (L.) Link
Ogilvie Mountains: Dempster Highway, Mile 83 by calcareous seepage, No. 1614. The present collection is the first in central northwestern Yukon (Porsild 1966: map 4).

Selaginella sibirica (Milde) Hieron.
Stewart Plateau: Mount Haldane, among rock slabs in alpine tundra, elevation 4,300–5,500 ft, No. 668. Ogilvie Mountains: Mountains east of Dempster Highway, Miles 50–54, elevation 5,000 ft, No. 41; dry lichen tundra on river terraces along Miles 55–56, No. 151; gravelly river terraces and rockslides by Miles 84–86, Nos. 1565, 1637, and 1687 (Porsild 1966: map 5).

PINACEAE

Abies lasiocarpa (Hook.) Nutt.
Stewart Plateau: South branch of McQuesten River north of Mount Haldane, elevation 2,000 ft, No. 475. On Keno Hill, 63°57′N, 135′13°W, the upper altitudinal limit of *Abies lasiocarpa* is well over 5,000 ft, where several trees with well-formed cones were observed. The stations cited represent the known northern limit for this cordilleran species (Porsild 1951*a*: 74–75).

Picea glauca (Moench) Voss var. ***Porsildii*** Raup
Stewart Plateau: Vicinity of Mayo. This is probably the common race of white spruce in Yukon, dominant in rich soil in lowland situations. In the valley of the Mackenzie River and in central Alaska, the var. *Porsildii* is also the dominant spruce on rich alluvial soils.

Picea mariana (Mill.) B.S.P.
On Keno Summit, 63°58′N, 135°42′W, elevation 6,000 ft, black spruce and alpine fir seedlings were noted and collected well above the timberline and well above the upper limit of *Picea glauca*, A.E. & R.T. Porsild, No. 23,582.

Pinus contorta Loud. var. ***latifolia*** Engelm.
Stewart Plateau: Dawson Highway, near Mile 188, between Carmacks and Pelly Crossing, No. 1391; Minto Road, 13 miles North of Mayo, Nos. 543, 900, and 1253, all with well-formed cones. As far as I know, this is the most northerly stand of pines in Yukon.

TYPHACEAE

Typha latifolia L.
Fruiting specimens from shallow ponds northeast of Mayo, about 63°55′N, 135°28′W, elevation 1,600 ft, Nos. 452 and 1252. The collections bridge a major gap between Norman Wells on the Mackenzie River and the Alaska Highway in central eastern Alaska.

SPARGANIACEAE

Sparganium angustifolium Michx.
Stewart Plateau: Vicinity of Mayo, Nos. 890, 1003, 1013, 1249, and A.E. & R.T. Porsild, No. 23,557. Ogilvie Mountains: Dempster Highway, Mile 72, No. 1763; Miles 90–93, No. 1590. In Yukon otherwise known from a few collections along the Canol Road (Porsild 1951*a*).

Sparganium hyperboreum Laest.
Stewart Plateau: Vicinity of Mayo, Nos. 513 and 802; Halfway Lakes north of Mayo, No. 951. Ogilvie Mountains: River flats along Dempster Highway, Mile 55, in shallow ponds, No. 424; Bell River near Lapierre House on the west slope of Richardson Mountains, Youngman & Tessier, No. 603. The last is a new northern limit for Yukon (Porsild 1966: map 6).

Sparganium multipedunculatum (Morong) Rydb.
Southeastern Yukon: 10–12 miles south from Ross River on Watson Lake Road, 6–7 Sept. 1964. Ogilvie Mountains: Dempster Highway, Miles 90–91, in deep ponds with *Potamogeton* species and *Hippuris vulgaris*, No. 1750.

ZOSTERACEAE

Potamogeton foliosus Raf. var. ***macellus*** Fern.
Stewart Plateau: Five Mile Lake north of Mayo, No. 788, with young, well-formed fruits on 12 July 1967; Halfway Lakes north of Mayo, fruiting specimens on 19 July 1967, No. 886;

south branch of McQuesten River, elevation 2,000 ft, in shallow pond, with young fruits on 20 Aug. 1967, No. 1159. Ogilvie Mountains: South end of Chapman Lake, No. 1764; lake along Dempster Highway, Mile 74, No. 1816; in deep floating bog with *P. alpinus* ssp. *tenuifolius*, near Miles 90–91, No. 1748, the last with fully matured fruits on 2 Aug. 1968. New to the flora of Yukon; in northwestern North America otherwise known only from a few collections in central Alaska and in the upper Mackenzie Basin (Great Bear River and Great Slave Lake).

Potamogeton Friesii Rupr.
Stewart Plateau: In a small lake between the south branch of McQuesten River and Mount Haldane, No. 1148, fruiting specimens on 10 Aug. 1967. Ogilvie Mountains: Lake west of Dempster Highway, Mile 65, elevation 3,750 ft, Nos. 317 and 481; Mile 72, south end of Chapman Lake, No. 1761. In Yukon previously known from near Carcross and from Watson Lake (Porsild 1966: map 7).

Potamogeton perfoliatus L. var. ***gracilis*** Fries
Ogilvie Mountains: Lakes west of Dempster Highway Miles 58 and 65, elevation 3,800 ft, Nos. 483 and 497, flowering on 16–17 Aug. 1966. In Yukon otherwise known from a few collections on the Ross River, on the Canol Road, and from Carcross.

Potamogeton praelongus Wulf.
South end of Chapman Lake, Dempster Highway, about Mile 72, in water over 7 ft deep, where it is not common, No. 1767. In Yukon otherwise known from a single collection from Kluane Lake near Burwash Landing, H.M. Raup, No. 12,390.

Potamogeton pusillus L.
Stewart Plateau: 4 miles north of Mayo in small lakes, with almost mature fruits on 13 July 1967, No. 814; fruiting specimens in shallow, alkaline lake on 28 Aug. 1967, No. 1246. In Yukon previously known only from the Dawson region and from near Whitehorse (Porsild 1951*a*).

Potamogeton strictifolius A. Benn. var. ***rutiloides*** Fern.
Stewart Plateau: In shallow ponds northeast of Mayo, No. 817, specimens with young fruits and winter buds already forming on 13 July 1967. In Yukon otherwise known from a single collection in the Pelly River valley (Porsild 1951*a*).

Potamogeton vaginatus Turcz.
Stewart Plateau: In alkaline lakes northeast of Mayo, Nos. 809 and 1247. Specimens with well-formed fruits on 17 July 1967. In Yukon otherwise known from stations along the Canol Road, where it was reported common (Porsild 1951*a*).

JUNCAGINACEAE

Scheuchzeria palustris L. var. ***americana*** Fern.
Stewart Plateau: Vicinity of Halfway Lakes north of Mayo, in wet sphagnum bog associated with *Carex limosa, C. Heleonastes* and *Eriophorum russeolum;* with fully matured fruits on 20 Aug. 1967, No. 1186, and on 1 Aug. 1970, No. 1973.

In North America long known only from stations south of the 60th parallel, *Scheuchzeria palustris* has recently been reported from the upper Kuskokwim River in southwestern Alaska (Drury 1956) and from peat bogs southeast of Great Slave Lake in the Mackenzie District (Cody and Porsild 1968). The present collection is the first from Yukon, and bridges an 800-mile gap between its known stations in Alaska and the Mackenzie District.

GRAMINEAE

Agropyron boreale (Turcz.) Drobov ssp. ***boreale***
Ogilvie Mountains: Along Dempster Highway, Mile 57, in dry ravine, elevation 4,200 ft, No. 354; Miles 83–86, Blackstone River valley, dry slope at foot of canyon, No. 1621B.

Agropyron boreale (Turcz.) Drobov ssp. ***hyperarcticum*** (Polunin) Melderis
Ogilvie Mountains: Along Dempster Highway, sandy riverbank meadow, near Mile 67, Nos. 1792–93; Blackstone River valley, dry slope, near Miles 83–86, No. 1621A.

Agropyron pauciflorum (Schwein.) Hitchc. ssp. ***novae-angliae*** (Scribn.) Melderis
Bonnet Plume Lake, 64°20′N, 132°00′W, W.H. Butler & N. Olsen, No. 10, 11–27 July 1966. Our specimens are a good match for *A. pauciflorum* ssp. *novae-angliae*, except that the anthers are 3–4 mm long.

Agropyron sericeum Hitchc.
A. macrourum (Turcz.) Drobov
Gravelly river terraces near Mayo, 63°35′N, 135°55′W, No. 853; gravelly slopes near Halfway Lakes, 63°48′N, 135°47′W, 4 July 1970, A.E. & R.T. Porsild, No. 23,560. Ogilvie Mountains: On gravel bars along Dempster Highway, Mile 95, No. 1733.

Agropyron spicatum (Pursh) Rydb.
Stewart Plateau: Vicinity of Mayo, 63°35′N, 135°45′W, in canyon below water reservoir, on gravel slope at base of canyon wall, No. 1009. In Yukon otherwise known from Fort Selkirk and Dawson.

Agropyron subsecundum (Link) Hitchc.
Vicinity of Mayo, 63°35′N, 135°45′W, on gravelly river terraces, No. 929.

Agropyron violaceum (Hornem.) Lge. ssp. ***andinum*** (Scribn. & Sm.) Melderis
Ogilvie Mountains: River flats along Dempster Highway, near Mile 57, No. 364.

Agropyron violaceum (Hornem.) Lge. ssp. ***violaceum***
Ogilvie Mountains: Upper Blackstone River valley, Dempster Highway, Mile 8, 64°50′N, 138°12′–15′W, elevation 4,200 ft, on high banks facing river, No. 1113; same place but on dry slope at foot of canyon wall, No. 1621.

Alopecurus aequalis Sobol.
Vicinity of Mayo: 13 miles north of Mayo, in meadows near lake, elevation 2,000 ft, No. 906; 4 miles north of Mayo, 63°35′N, 135° 45′W, lakeshore meadows, No. 786. Ogilvie Mountains: Dempster Highway, Miles 54–56, on edge of partly summer-dry pond, Nos. 446 and 456; Miles 93–95, by wet margins of ponds, Nos. 1589 and 1737. Chromosome counts of 2n = 14 were obtained from Nos. 456 and 906 (Mulligan and Porsild 1969).

Alopecurus glaucus Less.
Stewart Plateau: Keno Summit, in moist alpine tundra between 5,500 and 6,000 ft elevation, Nos. 975, 1054, and 1281; the last had matured seed on 22–23 Aug. 1967. Ogilvie Mountains: Dempster Highway, Miles 67–69, in dry river-flat meadows, Nos. 1594 and 1813 (Porsild 1951*a*, 1966).

Apparently a rare plant in Alaska and Yukon that, unlike *A. alpinus*, appears to be restricted to alpine situations even when occurring close to the seacoast. *A. alpinus*, on the other hand, although not strictly speaking littoral, is very rarely found far from the seacoast.

Arctagrostis poaeoides Nash
Ogilvie Mountains: Along Dempster Highway, Miles 54–55, in grassy places above floodplain, 11 Aug. 1968. No. 1829. A rare and perhaps not too-well-understood member of a taxonomically difficult group; thus far known only from about one dozen stations in central Yukon and Alaska.

Calamagrostis kolymaensis Kom., Not. Syst. Herb. Hort. Bot. Petrop. 2:129 (1921).
I reported this Siberian species (Porsild 1965a:81) from a number of stations in arctic Alaska, where it had been identified as *C. neglecta* var. *borealis* or as *C. deschampsioides*. Hultén (1967:11; 1968:107), on the authority of Tolmatchev (1964:64–68), had noted that *C. kolymaensis* is a synonym for *C. Holmii* Lge. (Lange *in* Holm 1885: 16; Pl. 1, fig. 2; Pl. 2, figs. 9–16).

I have not seen the type of *C. Holmii*, nor that of *C. kolymaensis*, but as noted (Porsild 1965a:81), the description of the latter by Rozhevits (*in* Komarov 1934:219) certainly fits the plant reported by me from Alaska. However, it differs in several important points from Lange's description of *C. Holmii* (Lange *in* Holm 1885), where it is stated: *"foliis omnibus angustissimis, complicatis v. involutus"*, although the plant shown in Lange's plate 1 actually has flat, rather than inrolled, leaves. However, a more important difference is shown in Lange's plate 2, where figures 9–16 show details of the floral parts of *C. Holmii*. According to the explanation accompanying figures 9–13 (Lange *in* Holm 1885:68), the floret, glumes, lemma, and palea are said to be magnified six times, and, if so, the glumes of *C. Holmii* are 10 mm long and the floret only slightly shorter. In the North American plant reported by me as *C. kolymaensis* (Porsild 1965a), and also in the specimens distributed as *C. Holmii* Lge. ex. Herb. Inst. Bot. Acad. Sci. URSS, from the Taymyr Peninsula and the lower Lena River, the leaves are flat, and the glumes 3 to 4 mm long, or less than half of those of *C. Holmii*.

Since my report (Porsild 1965a), I have examined plants from the Canadian Arctic matching the description of *C. kolymaensis*. The plants were discovered in the following locations: Prince Patrick Island, Mould Bay, 76°12′N and 119°25′W, S.D. MacDonald, No. 57; Melville Island, Sherard Bay, ca. 76°N and 108°W, M. Kuc, July 1971.

Calamagrostis chordorrhiza Porsild is not synonymous with either *C. Holmii* or *C. kolymaensis*, as suggested by Hultén (1967, 1968), nor is it even closely related to them, differing, for example, by its strongly rhizomatose habit, very scabrous leaves, and taller and more robust culms, whose upper third parts are distinctly scabrous, and by its longer ligules.

Calamagrostis purpurascens R. Br. ssp. ***Maltei*** (Polunin) Porsild **n. comb.**
C. purpurascens var. *Maltei* Polunin, Nat. Mus. Can. Bull. 92: 51 (1940).
Yukon: Ogilvie Mountains, Dempster Highway in dry alpine herbmats near Miles 57-58, elevation about 5,000 ft, No. 400; on limestone ridges near Mile 81, elevation 4,200 ft, No. 1491. Alaska: Brooks Range, De Long Mountains, Feniak Lake, 68°17′N, 158°20′W, Holmen and Mårtensson, No. 61-1032.

Thus far, ssp. *Maltei* was known only from the type collection made in 1927 near Pond Inlet in northern Baffin Island in the eastern Canadian Arctic (No. 118,833).

The new collections from Alaska and the Yukon, although remote by a gap of 1,500 miles, match perfectly the Pond Inlet plant, and clearly indicate that ssp. *Maltei* is no trivial variation of *C. purpurascens*. Subspecies *Maltei* differs most strikingly from *C. purpurascens* by its horizontal and always distinct rhizome and by its consistently shorter but broader and more open panicle, averaging 4–6 cm in length and about 2 cm in diameter, whereas in typical *C. purpurascens* the length-diameter ratio of the panicle is approximately 8:1. In ssp. *Maltei* the glumes are glabrous, dark purplish and 5–7 mm long, compared with 4 mm long in *C. purpurascens*, and the strongly geniculate awn is well exserted and spreading; the anthers are 2.0–2.2 mm long and fertile; the culms mostly solitary, 25–30 cm tall, smooth except just below the panicle; the leaves tend to be shorter than in *C. purpurascens*, mostly flat, 3–4 mm wide.

Calamagrostis Robertii **n. sp.**
Gramen perenne dense caespitosum; culmi in fasciculis erecti 30–40 cm alti, tenuibus, laeves, bi-nodosi; folia culmo maturo demidia breviora, lamina involutis attenuata; vaginae laeves, superior 8–10 cm longus; liguda usque ad 4 mm longa, truncata. Panicula laxiuscula, 3–7 cm longa et 1.0–2.0 cm lata, rami breves parce hispidae, inferioribus remotiusculis; spiculae 4.5–5.0 mm longae, glumae subaequales, purpureae vel fusco-purpureae, ad carinam parce scabrida; palea inferior purpurea infra medium dorsum arista recta lemata haud superante; calli pilis copiosi, dimidiam paleam sub-aequantes; antherae 1.5 mm longae.

C. Robertii differs strikingly from all members of the genus with which I have been able to compare it by its densely caespitose habit, smooth purplish culms and leaf-sheaths, the uppermost of extraordinary length, the tip of its blade reaching the base of the panicle.

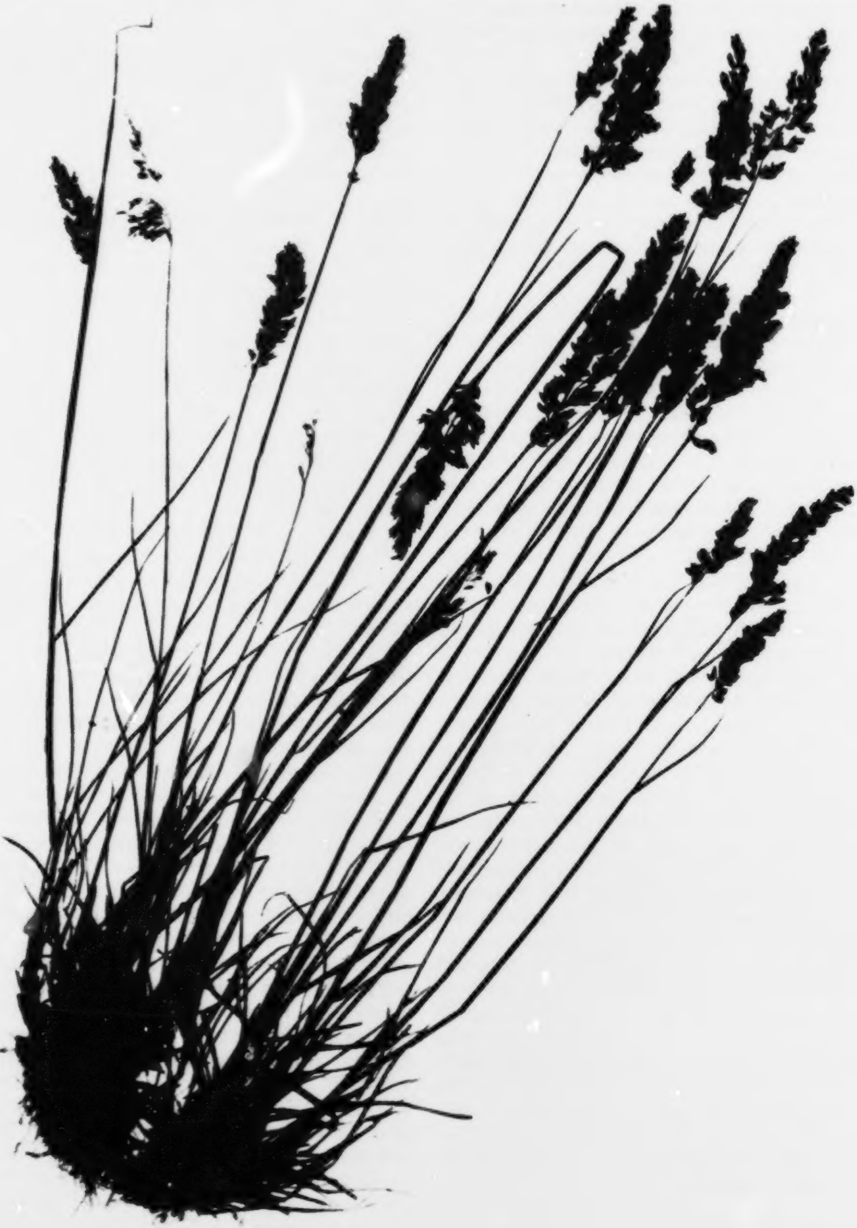
The type of *C. Robertii* came from the Ogilvie Mountains in northern Yukon from the gravelly river terraces near Mile 56 on Dempster Highway, 6 Aug. 1966, No. 441 (Type: CAN), Plate 1.

Calamagrostis Robertii is named for Robert T. Porsild, of Whitehorse, Yukon, in recognition of his very important contributions to our knowledge of the vascular flora of central Yukon.

Deschampsia brevifolia R. Br.
Stewart Plateau: Keno Summit, elevation 6,000 ft, gravelly places in damp alpine tundra, Nos. 520, 757, 963, 982, 1029, and 1232. Ogilvie Mountains: Tundra along Miles 81–86 on Dempster Highway, Nos. 309, 500, 1122, 1133, 1540, and 1655. Gjaerevoll's conclusion (1958: 25) that *D. caespitosa* ssp. *orientalis* "is identical with *D. brevifolia*" is puzzling. *D. caespitosa* ssp. *orientalis* is a littoral and strictly oceanic race with an open panicle, whereas *D. brevifolia* is arctic-alpine, and its panicle is always dense and contracted. Chromosome counts made from No. 309 gave 2n = 26 (Mulligan and Porsild 1969), which agrees with counts reported from Greenland (Jørgensen, Sørensen, and Westergaard 1958).

When it was reported from MacMillan Pass in the Mackenzie Mountains (Porsild 1951*a*), this taxon was otherwise known only from the Canadian Arctic Archipelago and from northern East and West Greenland. Gjaerevoll (1958) reported it from the White Mountains and the Alaska Range of central Alaska. I have also seen it from the St. Elias Mountains, D. Murray, No. 1435, from the Brooks Range,

Plate 1



Calamagrostis Robertii n. sp. (Type)
Approximately ½ natural size

and from elsewhere along the Arctic Slope of northern Alaska (Porsild 1964*a*: map 27). In 1970 I noted it as very common in alpine tundra along the Dempster Highway between Miles 80 and 110. According to Tolmatchev (1964), *D. brevifolia* is also wide-ranging in arctic parts of the USSR, from Nova Zembla to the Lena River. In the Canadian Arctic *D. brevifolia* is a dwarf species rarely more than 15 cm tall; in the mountains of Yukon and Alaska it is more high-grown, often with culms 30–35 cm high, and always restricted to truly alpine situations.

Elymus innovatus Beal
Ogilvie Mountains: Calcareous, gravelly river flats along Dempster Highway, Miles 81–83, Nos. 1559 and 1606; Mile 110, A.E. & R.T. Porsild, Nos. 23,592–93. A strongly calcicolous species, apparently common on the Peel Plateau.

Festuca baffinensis Polunin
Ogilvie Mountains: Mountain east of Miles 50–54 on Dempster Highway, on dry, rocky exposure, No. 505. The collection bridges a gap between southwestern Yukon and the Richardson Mountains east of the Mackenzie Delta (Porsild 1955: 84–86; 1964*b*: map 54).

Festuca brachyphylla Schultes
Ogilvie Mountains: Mountains east of Miles 50–57 on Dempster Highway, Nos. 378, 395, and 505A. The collection bridges a gap between southwestern Yukon and the Arctic Coast. In the first two numbers the glumes are of very unequal length, and although most lemmas are glabrous, scattered short hairs are present on some. In these characters, as well as in general appearance, these two numbers match *F. hyperborea* Holmen, described from northeastern Greenland and in recent years also recognized from the northernmost islands of the eastern Canadian Arctic; however, in Nos. 378 and 395 the leaves are distinctly tapered toward the apex, not equally broad to the apex as in *F. hyperborea*. The anthers in Nos. 378 and 395 are less than 1 mm long, and therefore our plant cannot be referred to *F. ovina* ssp. *alaskana* Holmen, described from the eastern Endicott Mountains of northern Alaska and reported from the Richardson Mountains of northeastern Yukon and northwestern Mackenzie District (Porsild 1966: 13–14).

Festuca rubra L. ssp. ***Richardsonii*** (Hook.) Hult.
F. rubra var. *arenaria* auct. non E. Fries
Ogilvie Mountains: Sandy river meadow along Dempster Highway, Mile 67, Nos. 1696 and 1795; Mile 82, No. 1139.

Festuca rubra L. ssp. ***rubra***
Ogilvie Mountains: Sandy river meadows along Dempster Highway, Mile 67, Nos. 1794 and 1800; limestone hill west of Mile 82, elevation 5,200 ft, No. 1104; gravel flats along upper Blackstone River, Nos. 1116 and 1123 (Porsild 1966: map 11).

Festuca saximontana Rydb.
Stewart Plateau: Gravelly slopes north of Mayo, elevation 1,600 ft, No. 800; sandy banks of creek along road to Moose Creek, elevation 3,000 ft, No. 987. A cordilleran species that reaches central interior Alaska through southern and central Yukon.

Festuca vivipara (L.) Sm.
Stewart Plateau: Keno Hill, open gravelly patch on herbmat slope, elevation 4,500 ft, No. 955. In Yukon otherwise known from two collections in the St. Elias Mountains. For a discussion of this and the three preceding taxa, see Porsild 1966: maps 11 and 12.

Glyceria borealis (Nash) Batch.
Stewart Plateau: 4 miles north of Mayo on gravelly edge of small lake, elevation 1,900 ft, No. 947. In Yukon otherwise known only from single stations near Dawson and from Little Atlin Lake (Raup, No. 11,371).

Glyceria grandis S. Wats.
Ogilvie Mountains: In shallow slough west of Dempster Highway near Mile 95, No. 1743. This station extends, by about 100 miles, the known northern limit in the Yukon for the species.

Glyceria pulchella (Nash) Schum.
Stewart Plateau: In wet meadow bordering Five Mile Lake north of Mayo, No. 815 (Porsild 1966: map 13).

Hierochloe odorata (L.) Wahlenb.
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, in dry heath, No. 231; Blackstone River valley, near Miles 82–86, on gravelly river flats, Nos. 1127 and 1622. The

last two collections fill a gap in the known distribution of the species in central Yukon.

Phippsia algida R. Br.
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, elevation 2,500 ft, on dry gravel, No. 131, with mature seeds on 9 July 1966. A chromosome count (unpublished) agrees with 2n=28 reported from Greenland (Böcher, Holmen, and Jakobsen 1968); Dempster Highway, Mile 58 by overflow from cold spring, No. 495. In Yukon *P. algida* has previously been reported from mountains south of Kluane Lake (Porsild 1966).

Poa annua L.
Minto Lake Road, Miles 9 and 13, in damp gravel road, Nos. 911 and 1295. Common and spreading rapidly along new roads and new settlements. In Yukon perhaps mainly biennial. No. 1295 had mature seeds on 26 Aug. 1969, and provided a chromosome count of 2n=28 (Mulligan and Porsild 1969).

Poa lanata Scribn. & Merr.
Mountain summit east of Dempster Highway, Miles 57–58, elevation about 6,000 ft, No. 379. An alpine and perhaps often overlooked species; the present collection is the first from central Yukon and represents a slight northward extension of its known Yukon range.

Poa paucispicula Scribn. & Merr.
Keno Summit: 63°58′N, 135°42′W, common in rather moist alpine heath and herbmats from 4,500 to 6,000 ft elevation, Nos. 759, 968, and 1028; "Highlet Gulch", tributary to Minto Creek, 63°45′N, 136°10′W, elevation 4,000 ft, Nos. 841 and 842. The collections are the first from central Yukon (Porsild 1951*a*: 91).

Poa Porsildii Gjaerevoll, Kgl. Nor. Vidensk. Selsk. Forh. 29 (16): 73–76 (1956).
P. vaseyochloa Hult., Ark. Bot., ser. 2, vol. 7 (1): 16 (1967) *non* Scribn.
Ogilvie Mountains: Granitic ridge east of Mile 57 on Dempster Highway, elevation 6,000 ft, No. 375; in turfy alpine tundra near Mile 81, No. 1499. Stewart Plateau: Keno Summit, south slope, elevation just under 6,000 ft, in alpine heath near snowbed, Nos. 1023, 1031, and 1223; same place, large tussock of staminate plant, A.E. & R.T. Porsild, No. 23,566, and nearby pistillate plant, No. 23,567.

The description of *P. Porsildii* was based on over-mature specimens collected in MacMillan Pass near the Yukon–Mackenzie border, in September, when the first snow had already fallen (Type: Porsild & Breitung, No. 11,185). With the better and more abundant material now available, not only from the Mackenzie Mountains (Cody and Porsild 1968), but also from the Ogilvie Mountains and from the Stewart Plateau where, moreover, I was able to examine live material in July 1970, some emendations can now be added to the original description. The most important of these, perhaps, is that *Poa Porsildii* appears to be completely dioecious. The type cited above consists of two tufts, each containing 4 and 5 culms; both tufts were part of a large tussock. All florets are entirely staminate. This is also the case with No. 375 from Ogilvie Mountains, of which the collector prepared no less than nine duplicate sheets, all from one tussock. In the Yukon, in 1970, I examined hundreds of tussocks of *P. Porsildii;* all proved either male or female and were fully functional; in none did I find bisexual florets.

The culms are 25 to 30 cm tall in the type, but in the large material that I examined some culms measured 35 cm. In the description the leaves are said to be narrow; in life the blade may be 2 mm wide, but is often so tightly rolled as to appear narrower. The ligule, described as being "1.5–2.0 mm long, ovate-transversely cut and laciniate" (Gjaerevoll 1956: 73–76) is rarely quite that long.

The spreading, or even drooping, lower panicle branches noted and well illustrated by Gjaerevoll (1956: figs. 1 and 2) are excellent field characters that are readily observed even from a distance.

Hultén's categorical statement (1967: 16) that "*Poa Porsildii* proved [*sic!*] to be identical with this species [*P. vaseyochloa* Scribn.]" is difficult to understand. The latter, according to Hitchcock, Cronquist, and Ownbey (1969:667), is identical to *P. Leibergii* Scribn. described earlier; a still earlier synonym of *P. vaseyochloa* is *P. pulchella* Vasey, not *P. pulchella* Salisb. Vasey (1882:32) described his *Poa pulchella* as "a handsome dwarf *Poa*, related to *P. laxa* but distinct . . .", and A.S. Hitchcock (1951) wrote about *P. vaseyochloa*, ". . . small dense soft lax tufts; culms erect, 10 to 20 cm tall . . . panicle ovate, 2 to 4 cm long, few-flowered, open, the slender branches spreading bearing 1 or 2 spikelets . . .". These comments apply to the plant illustrated in Hitchcock, Cronquist, and Ownbey (1969) and to four sheets of *P. vaseyochloa* from Klickitat County, Washington, deposited in the National Herbarium of Canada. Among these sheets are two from the original Suksdorf collections, but they are not at all the robust Yukon bluegrass, which is twice as tall, strictly dioecious, has drooping panicle branches bearing 2 to 5 spikelets, normally forms huge tussocks, and is clearly an alpine endemic of unglaciated central Mackenzie Mountains, Northwest Territories, Yukon, and Alaska. *P. Leibergii Scribn. (P. vaseyochloa)* is known only "from hot interior sagebrush plains and foothills of Oregon and Washington" (Vasey 1882:32), and is separated from the Yukon plant by a gap of 1,400 miles.

Poa Williamsii Nash
Stewart Plateau: Keno Hill, in gravelly creek bed, No. 977. Ogilvie Mountains: River flats along Dempster Highway, Miles 55–56, on gravel ridges, elevation 2,500 ft, No. 273. The collections are the first from central Yukon. (Porsild 1951*a*, 1966).

Puccinellia interior Sør.
Mayo District near Five Mile Lake, where it was common along gravelly lakeshore, A.E. & R.T. Porsild, No. 23,554. The present collection represents a new northern limit for the Yukon, where it was first reported from the vicinity of Mackintosh, south of Kluane Lake (Porsild 1966).

Trisetum spicatum (L.) Richt. f. ***viviparum*** **n. forma:** spiculis viviparis
Ogilvie Mountains: Gravelly river bank along Mile 82 on Dempster Highway, No. 1142 (Type: CAN). The specimen consists of a single tuft in which one panicle is viviparous while the remaining three appear normal, although they are probably sterile. Typical *T. spicatum* were noted as common on Keno Summit, No. 1282, and in the Ogilvie Mountains along Dempster Highway. A chromosome count from seeds of No. 308 from river flats, Miles 57–58 on Dempster Highway, gave 2n = 28 (Mulligan and Porsild 1969).

CYPERACEAE

Carex aenea Fern.
Vicinity of Minto Bridge, 63°41′N, 135°51′W, in wet meadows, No. 885. The collection bridges a gap between southeastern Yukon and the Dawson area.

Carex athrostachya Olney
Vicinity of Mayo, 63°37′N, 135°55′W, on shores of small bog pond, with well-formed heads on 12 May 1967, No. 799. New to the flora of Yukon, the nearest stations are near Fairbanks, Anchorage, and southeastern Alaska.

Carex atratiformis Britt. ssp. ***Raymondii*** (Calder) Porsild
Vicinity of Mayo, 63°35′N, 135°45′W, bog on gravelly river terrace, No. 690. The collection bridges a gap between southeastern Yukon and the Dawson area (Porsild 1966: 17–18).

Carex atrofusca Schk.
Ogilvie Mountains: Dempster Highway, Mile 72 on wet shores of Chapman Lake, No. 1776; Mile 110 in moist, calcareous tundra, A.E. & R.T. Porsild, No. 23,599. The present collection bridges a gap between mountains of southwestern Yukon and the Arctic Coast.

Carex atrosquama Mack.
Stewart Plateau: Mount Haldane, along creek in open spruce woods, elevation 3,500 ft, No. 626. The collection bridges a gap between mountains of southeastern Yukon and those of central Alaska. (Porsild 1966: map 22).

Carex bicolor All.
Ogilvie Mountains: River flat along Dempster Highway, Mile 57, on turfy edge of dry bog, No. 311. In Yukon otherwise known from a few collections in the southeastern and southwestern parts of the territory (Porsild 1951*a*, 1966).

Carex bonanzensis Britt.
Stewart Plateau: Vicinity of Mayo in meadows along Five Mile Lake, No. 816. Ogilvie Mountains: Dempster Highway in wet meadows near Mile 95, No. 1738. In view of its reported Asiatic range, from Kanin Peninsula and the Ural Mountains to Anadyr in eastern Siberia (Tolmatchev 1966), it is strange that in North America *C. bonanzensis* appears to be entirely absent in the Bering Sea region, and is

rare and localized from central Yukon and Alaska and from western Mackenzie District north to the Mackenzie Delta.

Carex brunnescens (Pers.) Poir. ssp. ***alaskana*** Kalela
Ogilvie Mountains: Dempster Highway, open gravelly river terraces, Miles 68–69, No. 1592; Mile 81, No. 1549. The present collection bridges a gap in the known range of ssp. *alaskana* between southeastern Yukon and central Alaska (Kalela 1965).

Carex capillaris L. *s. lat.*
Three easily distinguished "races" of *C. capillaris* occur in central Yukon:

A. Terminal spike pistillate or sometimes with a few staminate flowers at the base; basal leaves flat, always fresh-green, and the mature flowering stems usually 10–20 cm tall. *C. capillaris* ssp. *robustior* (Lge. *ex* Drej.) Böcher *(C. Böcheriana* Löve et al., but not *C. Krausei* Boeckl.). Ogilvie Mountains: River flats along Dempster Highway, Mile 57, on clay spots in tundra, No. 226.

AA. Terminal spike always staminate; basal leaves grey-green.

  B. Mature flowering stems rarely over 10 cm tall. Common in alpine tundra. Arctic-alpine. *C. capillaris* L. *s. str.*

  BB. Mature flowering stems 20–30 cm tall. Common in woodland meadows. Boreal forest. *C. capillaris* L. var. *elongata* Olney (*C. capillaris* L. ssp. *chlorostachys* (Stev.) Löve et al.).

Carex capitata L.
Ogilvie Mountains: Peaty bogs along Dempster Highway, Miles 68–69, No. 1593; calcareous tundra along Dempster Highway, Mile 81, No. 1462. The second collection is slightly beyond the previously known northern limit for Yukon. A decided calciphile of western boreal-alpine rather than arctic range, in the southwestern Hudson Bay region barely overlapping that of the eastern and amphi-Atlantic *C. arctogena* Sm.

Carex chordorrhiza Ehrh.
Ogilvie Mountains: River flats along Dempster Highway, Mile 56, in wet sphagnum moss by shallow pond, No. 419; swampy lakeshore, near Mile 75, No. 1781; upper Blackstone River near Mile 82 on Dempster Highway, in moist tundra, No. 1137. These collections, which are the first from Yukon, bridge a major gap in the known range of *C. chordorrhiza* between the Mackenzie District and central Alaska.

Carex concinna R. Br.
Vicinity of Mayo, 63°35′N, 135°45′W, gravelly river terrace, No. 441; edge of shallow pond, No. 483. Ogilvie Mountains: Wooded calcareous cliffs, Dempster Highway, Mile 83, elevation 3,800 ft, No. 1510. The last collection is a new northern limit for the species in Yukon.

Carex consimilis Holm
Mayo District: Keno Summit, 63°58′N, 135°42′W, elevation 5,500–6,000 ft, alpine tundra, No. 1057; same place, in wet sphagnum bog, No. 1227. Ogilvie Mountains: Along Dempster Highway in alpine herbmats, Miles 51–52, No. 204; alpine tundra, elevation 4,500 ft, Miles 57–58, No. 260; peaty hummocks in open spruce woods, Mile 83, No. 1615; moist tundra flat at foot of limestone mountain, Mile 110, A.E. & R.T. Porsild, No. 23,601. For general range and alleged relation to *C. Bigelowii*, see discussion of *C. lugens*.

Carex eleusinoides Turcz.
C. kokrinensis Porsild
Keno Summit, 63°58′N, 135°42′W, elevation 5,500–6,000 ft, in wet places below seepage, A.E. & R.T. Porsild, No. 23,583. New to central Yukon.

Carex glacialis Mack.
Ogilvie Mountains: Limestone hills west of Miles 82–83, on Dempster Highway in dry, alpine heath where it was associated with *Thalictrum alpinum*, Nos. 1103 and 1520, the last with culms 20 cm high; slopes of poorly vegetated limestone hills west of Mile 110, associated with *Kobresia myosuroides* and *Dryas sylvatica*, A.E. & R.T. Porsild, No. 23,602.

Apparently a rare species in Alaska and Yukon, where it has been collected only a few times, mostly in high-alpine situations and probably always in soil rich in lime (Porsild 1951*a*, 1966).

Carex gynocrates Wormskj.
Mayo District: Vicinity of Minto Bridge, 63°41′N, 135°51′W, Nos. 530–31. The local abundance of this species, for example in southwestern Yukon and along the Canol Road, suggests that it is, perhaps, more abundant and wide-ranging in Yukon than would

appear from the relatively few collections on hand.

Carex Heleonastes Ehrh. ssp. ***Heleonastes***
Stewart Plateau: Vicinity of Halfway Lakes, elevation 2,300 ft, in a wet peat bog, No. 1188, where it was associated with *Scheuchzeria palustris* and *Carex limosa*. The collection is the first from Yukon and constitutes a major extension of the range of this taxon known for its "spotty" distribution, which may be accounted for to some extent by its preference for very boggy places difficult to approach. Its nearest known station is Liard Hot Springs in northern British Columbia (Porsild and Crum 1961), except for a specimen from Rink Rapid on the Yukon River near Carmacks, erroneously reported as *C. neurochlaena* Holm (*C. Heleonastes* ssp. *neurochlaena* (Holm) Böcher).

Carex holostoma Drej.
Ogilvie Mountains: In wet tundra, approximately 64°50′N near Mile 82 on Dempster Highway, with fully ripe fruits on 5 Aug. 1967, No. 1129. New to the flora of the Yukon, and in Alaska known only from three widely disjunct stations, two of them on the shores of Bering Strait, the third on the northern slope of the Wrangell Mountains.

Carex lasiocarpa Ehrh.
Stewart Plateau: Lower northern and eastern slopes of Mount Haldane, elevation 2,000 ft, No. 1161, on wet edge of bog where it grew with *Equisetum limosum*. New to the flora of Yukon, the present station bridges a gap between eastern central Alaska and the Mackenzie River valley (Porsild 1951*a*: 116).

Carex laxa Wahlenb.
Vicinity of Mayo, 63°48′N, 135°47′W, on swampy flat near Halfway Lakes, where it was associated with *Drosera anglica* and *Utricularia minor*, No. 887; south branch of McQuesten River, in a wet bog with *Drosera anglica* and *Tofieldia glutinosa*, elevation 2,000 ft, Nos. 1154 and 1207.

Since Hultén's report (1942) of *C. laxa* as new to North America, based on collections from Richardson Highway in central Alaska (J.P. Anderson, No. 2712B), a second station was added from the Mackenzie Delta (Porsild 1951*a*). The three collections cited above are the first reports from Yukon, and they close a gap between central Alaska and northwestern Mackenzie District.

Carex leptalea Wahlenb.
Stewart Plateau: Vicinity of Halfway Lakes north of Mayo in a wet bog, No. 1189. Since first reported from Yukon on the Canol Road (Porsild 1951*a*), a few more stations have been added in the central and southern parts.

Carex limosa L.
Stewart Plateau: Vicinity of Halfway Lakes north of Mayo, in a sphagnum bog with *C. Heleonastes*, Nos. 480 and 502; vicinity of Minto Bridge, on floating bog, No. 535; northeastern slope of Mount Haldane, in a bog with *C. livida* and *Scirpus hudsonianus*, No. 1162.

Carex livida (Wahlenb.) Willd.
Ogilvie Mountains: Dempster Highway, calcareous river-flat bogs, Miles 53–55, Nos. 428, 429, and 1827; Mile 75, No. 1782. In Yukon otherwise known from a single collection near Watson Lake.

Carex lugens Holm, Amer. J. Sci. 10: 269, figs. A–D (1900).
Ogilvie Mountains: River flats along Dempster Highway, Miles 57–58, common in not-too-dry meadows between gravel ridges, elevation 4,200 ft, No. 297; common in wet tundra along Dempster Highway, Mile 110, A.E. & R.T. Porsild, No. 23,603; Hungry Lake, 65°40′N, 136°00′W, elevation 800 ft, in sparsely wooded boggy places along stream, Youngman & Tessier, No. 691. In Yukon previously known only from the Dawson area.

Although *Carex lugens* and *C. consimilis* are of similar habit, they are, nevertheless, taxonomically as well as ecologically distinct; both are endemic in unglaciated Alaska, central Yukon, and northwestern Mackenzie District. *C. lugens* commonly grows in damp, mossy places by small streams, whereas *C. consimilis* prefers deep, peaty soil in spruce bogs (muskegs). Both are tussock-forming, and in both the primary roots are characteristically velvety because of a dense cover of pale, shaggy "hairs" (? mycorrhiza) that are approximately 1 mm long. In *C. lugens* the slender culms are from 50–100 cm tall or taller, and the long, flat leaves are rarely over 2 mm wide; the more or less sessile, nearly contiguous pistillate spikes, 3 (2) in number, are commonly 1–2 cm long, but rarely over 3 mm in diameter. In *C. consimilis* the culms are coarser, but rarely over 25 cm tall, the leaves 3–4 mm wide, and the 3 (rarely 4) pistillate spikes commonly 1.0 or rarely 1.5 cm long and 5 mm wide.

Carex consimilis was described as being stoloniferous, but the type from Klondike Indian Divide, Yukon Territory, J. Macoun, No. 53,878 (CAN 25,199), is caespitose and entirely lacking stolons.

Mackenzie (1935:401) listed *C. yukonensis* Britt., *C. consimilis* Holm, and *C. cyclocarpa* Holm (the types of all three from the Dawson area of central Yukon) as synonyms of *C. lugens*, of which the type came from Kasilof on the north shore of Kenai Peninsula, Alaska. Holm's figure (1900) agrees perfectly with a duplicate of the type, W.H. Evans, No. 725 (CAN 25,178), and shows two erect, well-separated pistillate spikes, the lower distinctly pedicellate, though in the text Holm stated, "spikes 3–4, contiguous".

It is of particular interest that Holm's illustration of *C. lugens* shows the hairy roots, a feature that, as far as I am aware, has not been described by anyone else. The hairs are best developed in plants growing in peaty soil, and are therefore always present in *C. consimilis*, but are absent or weakly developed in *C. lugens* when growing in wet, marshy places or in mineral soil.

Hultén (1942: 334; 1968: 248) placed *C. consimilis* in synonymy under *C. Bigelowii* Torr., perhaps influenced by Holm's statement (1900) that the plant is "stoloniferous" and "the perigynium . . . sharply denticulate along the upper margins". Neither of these statements actually applies to the type. But even so, *C. consimilis* is certainly quite distinct from *C. Bigelowii*, which has cord-like and scaly rhizomes terminating in leafy shoots and is not a muskeg plant at all. Moreover, *C. Bigelowii* is an amphi-Atlantic rather than a circumpolar species, not known in North America west of longitude 125°W, nor, according to Tolmatchev (1966), in Eurasia east of Murmansk.

Carex membranacea Hook.
Ogilvie Mountains: Dempster Highway, Mile 110, common in moist tundra below limestone hills, A.E. & R.T. Porsild, No. 23,604. The collection closes a gap between southwestern Yukon and the Arctic Coast.

Carex microglochin Wahlenb.
Ogilvie Mountains: Wet places along Dempster Highway, Miles 53–54, Nos. 426 and 1826. In the Yukon otherwise known from the southeastern and southwestern parts.

Carex microptera Mack.
Stewart Plateau: In open poplar-willow forest along road to Moose Creek, No. 986. Ogilvie Mountains: Along Mile 67 on Dempster Highway on gravelly river flat, No. 1791.

When first reported from Yukon (Porsild 1966), the habitat, which was near a clearing made for a pipeline near Pine Creek in southeastern Yukon, suggested a recent introduction. The environment of these additional Yukon stations leaves no question that *C. microptera* is native to Yukon.

Carex misandra R. Br.
Ogilvie Mountains: River-flat tundra along Dempster Highway, Mile 52, Youngman & Tessier, No. 376; along Miles 57–58 on ridge along creek, Nos. 240, 295, and 374; in tundra bogs near Mile 81, No. 1476; Mile 110, A.E. & R.T. Porsild, No. 23,605; also known from the St. Elias Mountains near Steele Glacier, D.F. & B.M. Murray, No. 1424.

C. misandra is an arctic species, new to the Yukon but probably also occurring along the Arctic Coast and on the west slopes of the Richardson and Mackenzie mountains.

Carex nardina E. Fries var. ***atriceps*** Kük.
Ogilvie Mountains: Mountain east of Dempster Highway, Miles 50–54 and 57–58, Nos. 386 and 509; on limestone hills west of Mile 82, No. 1081.

Appears to be rare in Yukon, where it has been reported only a few times.

Carex norvegica Retz.
Ogilvie Mountains: River flats along Dempster Highway, near Mile 58, elevation 2,800 ft, in damp treeless tundra, approximately 65°N, 138°W, No. 294.

Densely tufted culms 3–4 dm tall, slender but stiff, about twice as long as the flat or slightly involute leaves, 2–3 mm wide, and basal bladeless sheaths, dark purple and shiny. Spikelets 3, approximate, the scales black with a faint median nerve, slightly narrower and shorter than the distinctly dark-brown tight-fitting perigynia, 1.8–2.2 mm long, distinctly broadest above the middle and abruptly tapering to a distinct beak.

The discovery of this low-arctic "amphi-Atlantic" taxon in unglaciated northern central Yukon, 1,200 miles west of its nearest North American station, in Keewatin near the 100th meridian, is significant in view of the report of *C. norvegica* ssp. *conicorostrata* Kalela (1944) from the Chukotsk Peninsula in easternmost Siberia.

Typical *C. media* R. Br., with pale-green elliptic perigynia, 3.0–3.3 mm long, were collected in open willow corridors on nearby river flats, Nos. 296 and 422.

Carex paupercula Michx.
Stewart Plateau: Halfway Lakes in sphagnum bogs, No. 882. In Yukon otherwise known from the vicinity of Dawson and from a few stations along the Canol Road (Porsild 1951*a*).

Carex petricosa Dew.
Ogilvie Mountains: In dry, alpine heath on limestone mountain, elevation 5,200 ft, west of Dempster Highway, Miles 82–83, Nos. 1100, 1477, 1512, and 1527; common locally on calcareous slopes and floodplains near Mile 110, A.E. & R.T. Porsild, Nos. 23,606–07.

The known range of this still rare and little-collected species, until recently recorded only from mountains of Alberta near the type locality at approximately 53°N, has lately been extended north through and beyond the Mackenzie District to Victoria Island in the western Canadian Arctic Archipelago, southeastern and central Yukon (Porsild 1951*a*, 1955, 1966), and Alaska. Its known southern limit is in Banff National Park, Alberta, at approximately 51°N.

Carex rariflora (Wahlenb.) Sm.
Ogilvie Mountains: River flats along Dempster Highway, Miles 55–56, No. 274; in swampy tundra along upper Blackstone River from Mile 72 to 82 on Dempster Highway, Nos. 1136, 1770, and 1773. An arctic species apparently rare in Yukon, where it is probably restricted to alpine situations.

Carex rostrata Stokes
Vicinity of Mayo: Marshes along Five Mile Lake, No. 819. Ogilvie Mountains: Swampy river flats along Dempster Highway, Miles 57 and 95, Nos. 312 and 1744. No. 1744 is a very stout specimen, over 1 m tall, in which the 3 terminal spikes are staminate and linear, 6 cm long, and the lower 3 androgynous, the lowermost 9 cm long, with lateral branches or fascicles in the lower third.

Carex tenuiflora Wahlenb.
Ogilvie Mountains: River flats and bogs along Dempster Highway, Mile 56, Nos. 418 and 420; Mile 84, in damp meadows, No. 1695. Stewart Plateau: In wet swamp near Halfway Lakes, No. 1190. In Yukon thus far collected only a few times.

Carex vaginata Tausch
Ogilvie Mountains: Mountain east of Dempster Highway, Miles 54–57, in sedge and willow meadow, Nos. 250, 397, and 1824; Mile 110, floodplain, A.E. & R.T. Porsild, No. 23,608. Stewart Plateau: Vicinity of Minto Bridge in wet places in open spruce woods, No. 878.

Carex viridula Michx.
Carmacks Road, Mile 71 near Twin Lakes, Nos. 1864 and 1908. In Yukon otherwise known only from Whitehorse and Watson Lake.

Carex Williamsii Britt.
Ogilvie Mountains: River flats along Dempster Highway, Mile 53, No. 413A. In Yukon otherwise known only from the type locality, which is near Dawson, and from one station in the Kluane Lake area.

Eleocharis acicularis (L.) Roem. & Schultes
Not uncommon in soft, muddy places along quiet lake and pond shores. Halfway Lakes north of Mayo, 63°48′N, 135°47′W, No. 1187; Mayo Lake Road 13 miles north of Mayo, No. 1181; in pond on lower slope of Mount Haldane, 63°50′N, 135°50′W, No. 1156; lake west of Dempster Highway, Mile 58, No. 330; shallow pond, Dempster Highway, Mile 84, No. 1692.

Eleocharis palustris (L.) Roem. & Schultes
Shallow pond shores north of Mayo, 63°37′N, 135°55′W, Nos. 528 and 778; Dempster Highway, boggy places at Miles 55–56, No. 275, and Miles 96–98, No. 1716. The last collection is a northward extension of the known Yukon range.

Eleocharis pauciflora (Lightf.) Link var. ***Suksdorfiana*** (Beauv.) Svens.
Twin Lakes, approximately 61°40′N, 136°00′ W, on moist, sandy lakeshore, No. 1905; McLean Lake near Whitehorse on marly lake-

shore, No. 1955. (Porsild 1951a: 102; 1966: map. 31).

Eriophorum angustifolium Honck.
Common in swampy places on river flats along Dempster Highway, Miles 57 and 84–88, Nos. 293 and 1690. The last collection is about 100 miles beyond the previously known northern limit for this species in Yukon.

Eriophorum callitrix Cham.
Mayo District, Keno Summit, 63°58′N, 135°42′W, No. 760. Ogilvie Mountains: Along Dempster Highway, Mile 81, elevation 4,200 ft, calcareous spots in alpine tundra, No. 1496; Mile 110, in moist calcareous spots in tundra, A.E. & R.T. Porsild, No. 23,595. In Yukon previously reported only from near Pine Creek in southwestern Yukon (Porsild 1966).

Eriophorum russeolum E. Fries var. ***albidum*** Nyl.
Ogilvie Mountains: River flats and swampy lakeshore along Dempster Highway, Miles 50–51, No. 501; Mile 57, No. 314; Mile 72, No. 1772; Mile 82, No. 1128. In Yukon otherwise known from the southeastern part along the Canol Road (Porsild 1951a).

Eriophorum Scheuchzeri Hoppe
Ogilvie Mountains: River flats along Dempster Highway, Mile 58, No. 304. Probably common in central and northern Yukon, although thus far not actually collected north of the Ogilvie Mountains.

Eriophorum triste (T. Fries) Hadač & Löve
Mayo District: Keno Summit, common in moist mineral spots of alpine tundra, Nos. 720, 761, and 1055. Ogilvie Mountains: Mountain east of Dempster Highway, Miles 57–58, elevation 5,800 ft, No. 269.

Eriophorum vaginatum L. ssp. ***vaginatum***
Ogilvie Mountains: Peat bog along Dempster Highway, Mile 82, 64°50′N, No. 1135; Peel River basin, Hungry Lake, 65°50′N, 136°00′W, Youngman & Tessier, No. 692.

Kobresia hyperborea Porsild
Ogilvie Mountains: In turfy alpine tundra along Dempster Highway, Mile 82, No. 362. In Yukon otherwise known only from a few collections in St. Elias Mountains and on the Arctic Coast.

Kobresia simpliciuscula Mack.
Ogilvie Mountains: Calcareous river flats along Dempster Highway, Miles 72–75, Nos. 433, 1774–75, 1785, and 1825; Dempster Highway, Mile 110, A.E. & R.T. Porsild, Nos. 23,595–98. The series partly closes a gap in the Yukon range of this species, between southwestern and southeastern Yukon and the Arctic Coast (Porsild 1951*a*).

Scirpus caespitosus L. ssp. ***austriacus*** (Pall.) Aschers. & Graebn.
Common in peat bogs everywhere; one collection, Dempster Highway, Mile 85, No. 1553, extends the known Yukon range by approximately 60 miles.

Scirpus hudsonianus (Michx.) Fern.
Stewart Plateau: Vicinity of Mayo, Minto Bridge, No. 542; Halfway Lakes, No. 861; north slope of Mount Haldane in wet peat bog with *Carex livida* var. *Grayana*, *C. limosa*, and *Drosera anglica*, No. 1163.

Scirpus Rollandii Fern.
Boggy shores of marly pond near Twin Lakes, approximately 61°40′N, 136°00′W, No. 1878. This is the second collection from Yukon, and it was found about 190 miles northeast of the earlier station near Mackintosh in southwestern Yukon (Porsild 1966: 22, map 32).

Scirpus validus M. Vahl
Dempster Highway, Miles 91–93, in wet places by pond margins, Nos. 1587 and 1752, specimens with fully ripened achenes on 16 July and 2 Aug. 1968. Vicinity of Mayo, Nos. 672 and 1243, the last with mature achenes on 28 Aug. 1967.

LEMNACEAE

Lemna minor L.
Stewart Plateau: In ponds northeast of Mayo, Nos. 454 and 1199. In Yukon thus far collected a few times in the Dawson area and in the southwest (Porsild 1966: map 33).

Lemna trisulca L.
Vicinity of Mayo in a shallow lake, No. 1200. Ogilvie Mountains: In ponds west of Dempster Highway, Mile 65, Nos. 321 and 485; Mile 82, south end of Chapman Lake, No. 1758. The last station bridges a gap between central and northern Yukon and the Mackenzie Delta.

JUNCACEAE

Juncus balticus Willd. var. ***alaskanus*** (Hult.) Porsild
Ogilvie Mountains: Very common in wet places on river flats along Dempster Highway, Miles 57, 81–82, Nos. 291, 1131, and 1537. The last station is slightly beyond the previously known northern limit for Yukon.

Juncus biglumis L.
Ogilvie Mountains: River flats along Dempster Highway, Mile 53, elevation 4,200 ft, No. 435; mountains east of Miles 50–54, elevation 5,500 ft, No. 475. Stewart Plateau: Keno Summit, on wet frost boils with *Claytonia tuberosa*, Nos. 961, 1024, and 1230. An arctic species that in Yukon is known only from a few collections on high granitic mountains (Porsild 1966).

Juncus bufonius L.
Vicinity of Mayo, 63°35′N, 135°45′W, on wet, gravelly beaches of small lakes, 4 miles north of town, No. 948. Ogilvie Mountains: Dempster Highway, Miles 96–98, by the edge of summer-dry ponds in river meadow, No. 1720. The last is a new northern limit for Yukon.

Juncus Drummondii E. Mey.
Stewart Plateau: "Highlet Gulch", 63°45′N, 136°10′W, in gravelly creek beds, elevation 4,000 ft, Nos. 838 and 843; vicinity of Mayo, 63°35′N, among willows in floodplain, No. 1174; Keno Summit, 63°58′N, elevation 6,000 ft, No. 1283.

An alpine cordilleran species, in Yukon thus far not reported from north of the Stewart Plateau, although even there it is restricted to alpine meadows and snowbeds.

Juncus filiformis L.
Ogilvie Mountains: Dempster Highway, Mile 96, in damp floodplain meadows of the Blackstone River valley, No. 1717. The collection is a slight extension of the known northern limit for Yukon. *Juncus filiformis* is circumboreal and, throughout its range, is confined to noncalcareous lakeshores and fens; in the Mackenzie District it has not been collected north of the Precambrian Shield.

Juncus stygius L. ssp. ***americanus*** (Buch.) Hult.
Stewart Plateau: Vicinity of Halfway Lakes, north of Mayo, in wet sphagnum bog with *Drosera anglica*, *Tofieldia glutinosa*, and *Carex livida* ssp. *americana*, Nos. 888, 1218, 1241, and 1969; south branch of McQuesten River in wet bog near Elsa, No. 1167. New to the flora of Yukon. Its nearest stations are in the Alaska Range and on Great Slave Lake in the upper Mackenzie Basin.

Juncus triglumis L.
Ogilvie Mountains: Common in river flats and in moist spots in tundra along Dempster Highway, Miles 53 and 58, Nos. 432 and 490; south end of Chapman Lake, Mile 72, No. 1771; moist riverbank meadows, Mile 81, Nos. 1469 and 1777; Miles 85–86, damp creek bank, Nos. 1550 and 1648; Mile 110, moist floodplain tundra, A.E. & R.T. Porsild, No. 23,609.

Mature capsules average 6 mm in length and are well exserted beyond the tips of the perianth; the seeds, including tails, are 2 mm long or only slightly shorter than the measurement given by Fernald (1924: 201–03) for *J. triglumis*, but are distinctly longer than the measurement reported for *J. albescens* (Lge.) Fern.

In No. 1771 some culms are 29 cm tall.

Luzula arctica Blytt ssp. ***arctica***
Stewart Plateau: Keno Summit, elevation 5,500–6,000 ft, in alpine tundra, Nos. 1059 and 1229; east fork of Vancouver Creek; McQuesten area, approximately 64°N, 136°W, J.D. Campbell, No. 576. In Yukon otherwise known from two collections from the Arctic Coast and from the Pelly Mountains along the Canol Road (Porsild 1951*a*, 1966).

Luzula arctica Blytt ssp. ***latifolia*** (Kjellm.) **n. comb.**
L. arcuata f. *latifolia* Kjellm., Vega Exped. Vetensk. Iakttag. 374 (1883).
L. arctica var. *latifolia* Buchenau, Pflanzenr. IV, 36, Heft 25: 69 (1906).
L. tundricola Gorodk., Herb. Inst. Bot. Acad. Sci. URSS (1935) *nomen nudum;* Vassiljev, Acad. Nauk SSSR Bot. Inst. Bot. Mater. Herb. 15: 40 (1953).
L. beeringiana Gjaerevoll, Kgl. Nor. Vidensk. Selsk. Skr., no. 5: 63 (1958).
Ogilvie Mountains: Mountain east of Miles 50–54 on Dempster Highway, in rocky saddle, elevation 5,500 ft, No. 507; 20 miles south of Chapman Lake, 64°35′N, 138°20′W, Youngman & Tessier, No. 493 (Porsild 1966: map 38).

Gjaerevoll (1958) in his discussion of *L. beeringiana* noted that "this species has caused much confusion", which undoubtedly is correct, but why this should be is not so obvious. To anyone familiar with the two subspecies of *L. arctica*, it should be obvious that they are, at most, geographical races; *L. arctica* ssp. *arctica* is circumpolar and truly arctic, whereas ssp. *latifolia* is amphi-Beringian and apparently oceanic, with relatively few alpine inland stations; its eastward range, as is the case with the majority of amphi-Beringian species, does not extend beyond the Mackenzie Delta (Porsild 1951*a*: 129–30; 1966: map 38).

Although the differences between ssp. *arctica* and ssp. *latifolia* are constant and easily observed, they are by no means fundamental. Both are densely caespitose; the fully developed leaves in each one (Porsild 1951*a*) are rarely over 4 mm wide. Lid (1963) stated that in Scandinavia the leaves of *L. arctica* are 3–5 mm wide, while for Greenland, Böcher, Holmen, and Jakobsen (1968) reported leaves 4.0–4.5 mm wide. In typical *L. arctica* Hultén (1942, 1968) reported the leaves to be 2–3 mm wide, whereas in *L. tundricola* (*L. arctica* ssp. *latifolia*) they are said to be 4–8 mm wide; the last figure is clearly a misprint, for leaves even 5 mm wide are indeed rare. Vassiljev (1953) noted that the leaf margins in his *L. tundricola* bear long, thin hairs, which is correct, but they are soon lost and can rarely be seen except in young leaves; such caducous hairs are also found in ssp. *arctica*, which differs from ssp. *latifolia* mainly by its dark-coloured, more compact and rarely branched inflorescence that, like the upper part of the stem as well as the upper half of the leaves, is consistently darker than in ssp. *latifolia*. In the details of flower and fruit I have been unable to detect any consistent differences in the two subspecies.

Whether to consider ssp. *latifolia* a geographical race or a good species is merely a matter of convention. For Hultén to consider ssp. *latifolia* a good species is certainly inconsistent with his treatment (1963) of *L. multiflora*, in which he deals with four subspecies (two of them with varieties). Of these varieties, ssp. *multiflora* var. *Kjellmanii* is as different from *L. multiflora* ssp. *comosa* as *L. arctica* is from *L. tundricola (L. arctica* ssp. *latifolia).*

Luzula arcuata Wahlenb.
Ogilvie Mountains: Canyon Creek, Mile 48 on Dempster Highway, No. 454. Stewart Plateau: Keno Summit, in alpine heath, Nos. 1026 and 1030. The present collections are the first from central Yukon. This species was previously reported as common on mountains along the Canol Road (Porsild 1951*a*).

Luzula groenlandica Böcher, Medd. Grønland 147 (7):18, pls. 1–3 (1950).
Ogilvie Mountains: Dempster Highway near Mile 57, on dry, gravelly river terraces, elevation 4,200 ft, No. 230; mountain east of Miles 50–54, in saddle between rock towers, elevation 5,500 ft, No. 506; boggy lakeshores near south end of Chapman Lake, Mile 62, No. 1769; moist floodplain below limestone hills near Mile 110, elevation about 3,500 ft, A.E. & R.T. Porsild, No. 23,610.

The material is very uniform, and completely agrees with *L. groenlandica* from Greenland and also from eastern arctic Canada, where it was reported from Labrador and from several places on the west coast of Hudson Bay (Cody and Porsild 1968: 266). Ripe seeds are present in all three collections cited above, and measure 1.0–1.2 mm in length; the anthers are 0.5 mm long, and the perianth leaves about 2.0 mm long. A chromosome count of 2n = 24 was obtained from root tips grown from seeds of No. 1769, which was erroneously reported as *L. multiflora* (Retz.) Lej. (Mulligan and Porsild 1970).

L. groenlandica is a tundra species, wide-ranging from central West Greenland across subarctic North America, from northern Labrador–Ungava, the shores of Hudson and James bays, and northern Keewatin and Mackenzie districts, and appears to be truly alpine in the Yukon and Alaska. Throughout this range it was formerly treated as *L. sudetica*, *L. multiflora*, or perhaps more often as *L. multiflora* ssp. *frigida* var. *arctica;* in the last two taxa the perianth leaves are longer, and the chromosome count is 2n = 36 (Böcher, Holmen, and Jakobsen 1968). *L. groenlandica* is "new" to Yukon and Alaska.

Luzula multiflora (Retz.) Lej. ssp. ***frigida*** (Buch.) Krecz.
Southwestern Yukon, Haines Road near Mile 85, C.H.D. Clarke, No. 551; mountain above Vulcan Creek, south of Kluane Lake, by margin of alpine pool, Schofield & Crum, No. 8212; vicinity of Ptarmigan Heart, approximately 61°46–49'N, 138°32–37'W, in alpine tundra and muskeg, Raup, Drury & Raup, Nos. 12,698, 13,599, and 13,681; southeastern Yukon,

Canol Road, Mile 245, south fork of MacMillan River, A.E. Porsild & Breitung, No. 11,412; central Yukon, Midnight Dome near Dawson, 64°04′N, 139°42′W, No. 1415. In the last number, collected on 21 June 1968, the heads are still close together and may thus be referred to the var. *contracta* Sam.

Apparently rare or little-collected in Yukon, where it was previously reported only from the Canol Road near the Yukon–Mackenzie divide (Porsild 1951*a*).

Luzula rufescens Fisch.
Stewart Plateau: Vicinity of Mayo on gravelly river terraces, No. 507A; Midnight Dome near Dawson, open wooded slopes, No. 1417. Ogilvie Mountains: In willow thickets on floodplain near Dempster Highway, Mile 67, No. 1810. An amphi-Beringian species, in Yukon previously known from the vicinity of Dawson. Beyond Yukon Territory, it has recently been collected in the Mackenzie Delta and in northeastern British Columbia.

Luzula spicata (L.) DC.
Stewart Plateau: Keno Summit, in open alpine tundra, elevation 6,000 ft, No. 1042; Mount Haldane, gravelly slope of main cirque, elevation 5,500 ft, No. 590. The present collections apparently extend the known northern limit for *L. spicata* in the Yukon. In eastern North America the range of *L. spicata* follows the familiar pattern of a low-arctic amphi-Atlantic species, extending from southern and central East and West Greenland, southern Baffin Island, and Labrador–Ungava to the east coast of Hudson Bay, south to Newfoundland, Gaspé, and the high mountains of New England and northern New York.

The range of the western population of *L. spicata* extends from the Mackenzie Mountains over the Alaska Range and the Pacific Coast of Alaska to Unalaska Island, and southward mainly along the Continental Divide to Colorado and Arizona, with disjunct populations on Vancouver Island and in the southern coastal Mountains of British Columbia. To the west of Bering Strait, *L. spicata* appears to be absent across Siberia until we reach the Ural Mountains.

From the 1,500-mile wide "gap" between the eastern and western populations, we know of a few isolated stations, each disjunct by several hundred miles from the main areas: Great Bear Lake, A.E. Porsild & R.T. Porsild, Nos. 3652 and 5224, and Nisutlin Lake in northern Manitoba, Baldwin, Nos. 2211 and 2292. It would thus appear that the eastern population is amphi-Atlantic and low-arctic-alpine, whereas the western is cordilleran North Pacific and not arctic. (Porsild 1964*b*: map 110).

LILIACEAE

Smilacina trifolia (L.) Desf.
Although R.T. Porsild thoroughly explored a great many sphagnum bogs during three seasons of collecting, he was unable to add *S. trifolia* to his long list of range extensions. A member of the flora of the eastern boreal forest, this species barely enters southeastern Yukon, where it has been collected once near the east end of Watson Lake, approximately 60°05′N, 128°43′W, Raup & Correll, No. 11,058. Apparently, it is also absent from Alaska but, in common with some other woodland species, reappears in forested parts of eastern Siberia.

Tofieldia coccinea Richards.
Ogilvie Mountains: In dry herbmats on mountains east of Dempster Highway, Miles 57–58, elevation 4,500 ft, No. 256; near lake west of Mile 57, No. 332; limestone hills west of Miles 81–85, in alpine tundra, Nos. 1099, 1489, and 1564. Noted as very common on limestone hills near Miles 110–13.

Tofieldia glutinosa (Michx.) Pers.
Stewart Plateau: South branch of McQuesten River in a bog west of Elsa, No. 1164; in bogs near Halfway Lakes, Nos. 505A, 862, 1242, and 1296. In Yukon otherwise known from Watson Lake, Raup & Correll, No. 11,018. This is the first documented report from Yukon.

Tofieldia pusilla (Michx.) Pers.
In interior northwestern America there appears to be a strong discrepancy between the stature of this plant and the epithet by which it is now recognized. Thus, in the National Herbarium of Canada there are scores of sheets with individual specimens having scapes well over 20 cm tall, and quite commonly up to 25 and 30 cm tall, bearing racemes composed of up to 62 flowers. Some of the above were found in the following locations. Yukon Territory: Stewart Plateau, vicinity of Mayo, Nos. 797, 898, and 1291; Alaska Highway near White River, J.P. Anderson, No. 9278. Alaska: Wiseman, J.P. Anderson, No.

5836. Mackenzie District: Mackenzie Mountains, Brintnell Lake, Raup & Soper, No. 9625.

Elsewhere within most of its northern range, *T. pusilla* is very rarely over 15 cm tall, and in the Arctic and Subarctic it is quite often shorter, with short racemes often no more than 1 cm long, and rarely with more than 11 flowers, often no more than 5–6.

Zygadenus elegans Pursh
Noted as common, mainly on calcareous soils, north in the Ogilvie Mountains at least to Mile 81 on the Dempster Highway, No. 1501.

ORCHIDACEAE

Calypso bulbosa (L.) Oakes
Stewart Plateau: Vicinity of Mayo in rich birch-spruce woods, Nos. 451A, 699, and 1016. In Yukon otherwise known from Dawson and Johnsons Crossing, Mile 835 on the Alaska Highway (Porsild and Crum 1961).

Cypripedium passerinum Richards.
Minto Road north of Mayo, approximately 63°41–43′N, 135°51–52′W, elevation 2,000 ft, in dry meadow among willows, No. 897; in dry meadow above Minto Bridge, No. 891. Ogilvie Mountains: Blackstone River valley, Dempster Highway, Mile 83, calcareous turfy openings in spruce woods, Nos. 1524 and 1618.

Goodyera repens (L.) R. Br.
Stewart Plateau: Vicinity of Mayo in mossy spruce woods with *Calypso bulbosa*, Nos. 474, 700, 855, and 1193. In Yukon otherwise known from Kluane Lake, White River and the Canol Road (Porsild 1951*a*).

Habenaria obtusata (Pursh) Torr.
The most common representative of the genus in central Yukon. Ogilvie Mountains: Common in mossy spruce woods along the Dempster Highway, Nos. 1611 and 1627.

Spiranthes Romanzoffiana Cham. & Schlecht.
Apparently common in certain types of peaty bogs of the Mayo District. Ogilvie Mountains: Along Dempster Highway, Miles 91–93, No. 1586. A slight northward extension of its known northern range in Yukon.

SALICACEAE

Salix alaxensis (Anderss.) Cov. var. ***longistylis*** (Rydb.) Schneid.
Vicinity of Minto Bridge, 63°41′N, 135°51′W, in thickets by small lake, No. 536. Ogilvie Mountains: Dempster Highway near Mile 110, at base of limestone hills north of road, A.E. & R.T. Porsild, No. 23,613. In Yukon not previously reported from north of the Dawson area.

Salix arctica Pall.
Mount Haldane, 63°51′N, 135°40′W, rocky ledges above cirque, elevation 4,000 ft, No. 611; Keno Hill, 63°58′N, 135°42′W, on southwestern slope, elevation 5,500 ft, No. 737. Ogilvie Mountains: Dempster Highway on mountains east of Miles 50–58, elevation 6,000 ft, Nos. 149 and 266; Mile 110, moist floodplain below limestone hills, A.E. & R.T. Porsild, No. 23,611. The present series closes a gap in the known range of this species between the Dawson area and the Arctic Coast.

Salix Barclayi Anderss.
Ogilvie Mountains: Dempster Highway, Mile 52, elevation 4,560 ft, Youngman & Tessier, No. 364; Halfway Lakes north of Mayo, 63° 48′N, 135°47′W, bushes 5 feet tall by edge of pond, A.E. & R.T. Porsild, No. 23,564. In Yukon otherwise known only from the Canol Road (Porsild 1951*a*) and from a few collections in the extreme southwestern part of Yukon.

Salix Barrattiana Hook.
Ogilvie Mountains: On snowbed slopes by alpine brook on mountain east of Miles 50–54 on Dempster Highway, elevation 4,500 ft, No. 168; moist subalpine slope east of Mile 51, No. 357; same place, Youngman & Tessier, No. 366; damp hollows in floodplain tundra at foot of limestone hills near Mile 110, A.E. & R.T. Porsild, No. 23,612. A cordilleran species that reaches mountains in central and northern Yukon and Alaska.

Salix Bebbiana Sarg.
S. depressa L. ssp. *rostrata* (Anderss.) Hiit.
A boreal forest species, common in central Yukon north to the Ogilvie Mountains, reappearing again in the Porcupine River basin, where it has been collected 13 miles southeast of Lapierre House, elevation 2,300 ft, Youngman & Tessier, No. 588. Along the Mackenzie River valley, *S. Bebbiana* is com-

mon north to the Mackenzie Delta, where it has been collected near Aklavik (A.E. Lindsey, No. 657).

Salix candida Flügge
Stewart Plateau: Vicinity of Mayo, on floating margin of marly bog, No. 655. A member of the eastern boreal forest element, barely reaching Yukon and central Alaska (Porsild 1966: map 46).

Salix fuscescens Anderss.
S. arbutifolia auct. non Pall.
Ogilvie Mountains: In sphagnum bog on river flat along Dempster Highway, Mile 54, No. 16. Also from Bell River near Lapierre House in the Porcupine River basin of northern Yukon, Youngman & Tessier, No. 608. In Yukon otherwise known only from the Arctic Coast (Porsild 1943: 27).

Salix glauca L. ssp. ***glabrescens*** (Anderss.) Hult.
Ogilvie Mountains: Dempster Highway near Mile 110, erect shrub 3–4 ft high by a brook, A.E. & R.T. Porsild, No. 23,614. In Yukon the var. *glabrescens* was not previously collected north of latitude 64°N.

Salix planifolia Pursh
McQuesten area, head of Bennett Creek, about 63°43′N, 136–38°00′W, elevation 3,800 ft, J.D. Campbell, No. 316; mouth of Bennett Creek, bushes 10 ft tall, *idem*, No. 332; Bell River, southwest of Lapierre House, approximately 67°40′N, 136°30′W, Youngman & Tessier, No. 530.

An eastern boreal-subarctic species, still common in the southwestern parts of the Mackenzie District and also reported from southeastern and southwestern Yukon (Porsild 1951*a*, 1966), but until now not reported from central and northern Yukon.

Salix Scouleriana Barr.
McQuesten area, Bear Creek, approximately 63°40′N, 136°40′W, in open muskeg, J.D. Campbell, No. 296; old burn on south-facing hillside, *idem*, No. 820. Ogilvie Mountains: Foot of limestone hills along Dempster Highway near Mile 110, A.E. & R.T. Porsild, No. 23,614. A north-cordilleran woodland species, in Yukon not previously reported from north of Dawson.

MYRICACEAE

Myrica Gale L.
Stewart Plateau: Swampy flats north of Mayo, No. 503A, flowering specimens with young leaves on 15 June 1967; edge of bog northeast of Mayo, No. 656, and at Mayo Lake, No. 1180. A rare and little-collected species in Yukon, where it appears to be restricted to the Dawson–Mayo districts.

SANTALACEAE

Geocaulon lividum (Richards.) Fern.
Mount Haldane, 63°51′N, 135°50′W, in open spruce forest, elevation 3,500 ft, No. 621. Ogilvie Mountains: Dempster Highway, Mile 83, in open spruce forest, elevation 3,800 ft, No. 1511. A boreal forest species, common in mossy spruce forest, mainly on well-drained river flats.

POLYGONACEAE

Koenigia islandica L.
Ogilvie Mountains: River flats along Dempster Highway, Miles 57–58, flowering specimens on 18 July 1966, No. 229, and with flowers and young fruits on 7 Aug. 1966, No. 445; Mile 47, on wet gravel in creek bed with almost mature fruits on 14 Aug. 1968, No. 1851. Apparently a rare, or no doubt often overlooked, plant in Yukon, where it is otherwise known only from two widely disjunct stations along the Canol Road and on Bennett Lake (Porsild 1951*a*).

Oxyria digyna L.
Ogilvie Mountains: Common locally along Dempster Highway, Mile 47, No. 1844, fruiting on 14 Aug. 1968. A chromosome count of $2n = 14$ confirmed earlier reports from Greenland (Böcher, Holmen, and Jakobsen 1968). In central Yukon found mainly in places where snow or overflow ice persists until late into the summer.

Polygonum alaskanum (Small) Wight
Stewart Plateau: Keno Hill, in moist ravines, elevation 4,500–5,500 ft, Nos. 999 and 1290. Ogilvie Mountains: River flats along Dempster Highway, Mile 63, No. 347. Peel Plateau: "Lapierre River" and Richardson Mountains, Youngman & Tessier, Nos. 516 and 586; Old Crow River, *iidem*, No. 641.

In the collections cited above, the leaves are glabrous except for the sparsely ciliate margins, and may thus be designated var. *glabrescens* Hult. (Porsild 1966: map 52).

Polygonum caurianum Robins.
Stewart Plateau: South branch of McQuesten River, in disturbed soil near Elsa, No. 1150. Apparently rare in Yukon, where it has been collected only a few times (Porsild 1951*a*).

Polygonum O'Neillii Brenckle
P. pennsylvanicum L. ssp. *Oneillii* (Brenckle) Hult.
Stewart Plateau: Vicinity of Mayo on wet, gravelly lakeshore, Nos. 949 and 1007, in beginning anthesis in the last week of July; same place with ripe achenes, No. 1309, 19 Aug. 1967, A.E. & R.T. Porsild, No. 23,558. In both collections the leaves are narrowly lanceolate, 6 to 7 times longer than broad, tomentose in youth, glabrate in age. The specimens closely match a collection from Naknek, Alaska Peninsula, E. Lepage, No. 24,111, determined by Brenckle, except that the peduncles of our specimens are totally glabrous, whereas in the Lepage specimen a few minute, stipitate glands are present (Hultén 1967: 46). The collections are the first from Canada, otherwise known only from southern and southwestern Alaska.

Rumex arcticus Trautv.
Very common in damp, turfy meadows and river flats along Dempster Highway, ascending to at least 3,000 ft elevation, Nos. 155, 850, 1141, 1642, 1806, and A.E. & R.T. Porsild, No. 23,616, the last at Mile 110 on the Blackstone River. A chromosome count of 2n=40 was obtained from No. 155 (Mulligan and Porsild 1969).

Rumex occidentalis S. Wats.
Vicinity of Mayo, 63°31′N, 135°54′W, willow flat north of town, No. 1146; Hungry Lake, 65°40′N, 136°00′W, in mossy, wet places along stream, Youngman & Tessier, No. 697.

Rumex triangulivalvis (Danser) Rechn. *fil.*
Dawson, on old gold dredge tailings, No. 544, with mature fruit on 19 Aug. 1968; same place, M.O. Malte, No. 282; Teslin Lake, M.P. Porsild, No. 774; Alaska Highway, Mile 1022, on dry roadside, Schofield & Crum, No. 8256. A chromosome count of 2n=20 was obtained from No. 544 (Mulligan and Porsild 1969).

PORTULACACEAE

Claytonia arctica Adams
Ogilvie Mountains: Mountain east of Dempster Highway, Miles 50–54, in moist gravelly places, elevation 5,800 ft, fruiting specimens on 15 Aug. 1966, No. 447 (Plate 2). A chromosome count from seedlings grown in Ottawa gave 2n=10 (Mulligan and Porsild 1969). The collection is the first from Canada, and is an interesting extension of the range of a species that is also rare and little-collected in Alaska, where, moreover (for reasons I shall document below), it has generally been confused with *C. sarmentosa* C.A. Mey.

The following Alaska specimens are in the National Herbarium of Canada, Ottawa: Brooks Range, Peters Lake, 69°20′N, 145°00′W, common in wet niggerhead tundra, Raymond D. & Mildred Wood, No. 341, and colour photographs Nos. 469–1961; "Lake Schrader", approximately same latitude and longitude, elevation 3,000 ft, *iidem*, No. 1878; Anaktuvuk Pass, 68°17′N, 151°25′W, L.A. Spetzman, No. 784 (the last two distributed as *C. sarmentosa*); Cape Lisburne, Seeman, summer of 1850, photograph of original specimen in Herb. Kew.

Although Hultén (1944) and others accepted Seeman's report of *Claytonia sarmentosa* C.A. Mey. from Cape Lisburne on the northwest coast of Alaska (Seeman 1852:27), I was puzzled, because Seeman's fine plate (1852: pl. 5) purported to represent *C. sarmentosa*, but is in fact *C. arctica* Adams, a little-known species in North America reported by Hultén (1937, 1968) only from the westernmost islands of the Aleutian chain, and in Asia known from northern Kamchatka, the Commander Islands, and from widely disjunct stations across arctic Siberia.

The description of *C. sarmentosa* in Seeman (1852) is copied verbatim from C.A. Meyer (1829:137), and clearly does not apply to the plant Seeman illustrated (1852: pl. 5). At Kew in 1954, I examined the well-preserved Seeman specimens from Cape Lisburne, and at once confirmed that Seeman had indeed collected *C. arctica* Adams, rather than *C. sarmentosa*, but had failed to recognize it as *C. arctica*. Two of the 12 specimens on the sheet preserved at Kew show plants with taproots, so well described by Adams (1817:94): *"radice fusiformi longa carnosa, caudice brevi turbinato simplicissimo haud stolonifera . . ."*; in the remainder of the Seeman specimens,

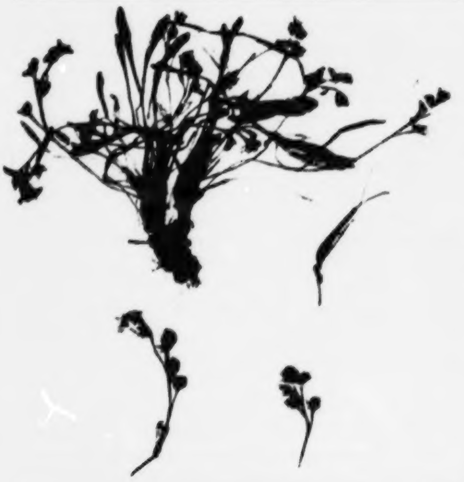


Plate 2
Claytonia arctica Adams
Approximately ⅓ natural size

the taproots were lost during the collecting, but the thickened lower part of the stem is still there, and shows the place of attachment. In none of the 12 specimens are runners present, such as those formed in *C. sarmentosa*. The label on the sheet reads: "3339. N.W. America, Seeman. 1850". Across the upper right corner W.J. Hooker had written "*Claytonia sarmentosa* C.A. Mey.".

In 1957 I was unable to discover the type of *C. arctica* Adams in the Komarov Herbarium in Leningrad, where it is said to be preserved. However, some other specimens more or less contemporary with the type, labelled *C. arctica*, agreed well with the plant illustrated by Seeman (1852: pl. 5), and also agreed with the photograph of the Kamchatkan *C. arctica* (Hultén 1928: pl. 2). On the other hand, some recent collections, for example, those from Wrangel Island, 8 Aug. 1938, Gorodkov, are depauperate and condensed, with a short and stouter taproot, and shorter basal leaves forming a rosette at the head of the taproot.

Rydberg (1932:302) cited *Claytonia sarmentosa*, Seem., not *C. sarmentosa* C.A. Mey., under *C. arctica* Adams, thereby showing that he recognized Seeman's illustration (1852: pl. 5) as a correct representation of *C. arctica* Adams; however, he failed to point out that the plant described by Seeman (1852) is *C. sarmentosa* C.A. Mey. Rydberg's opening statement, ". . . fleshy taproot 5–10 cm thick" is obviously a misprint and should have been "5–10 mm".

The Siberian range of *C. arctica* Adams, according to Tolmatchev (1966: map 67), is from the Lena Delta to the head of the Gulf of Anadyr, with a disjunct population in Wrangel Island. Incidentally, *C. arctica* Adams was described as being one-flowered, with pale-yellow petals *(dilute flavis)*. Hultén (1928: pl. 2) shows one Kamchatkan plant with a single-flowered scape, and a second in which one flower is fully expanded and two are still unopened; the petals are said to be white. In the Yukon and Alaska *C. arctica* usually has more than one flower, and the petals are pale pink with purple veins.

Claytonia tuberosa Pall.
Stewart Plateau: Keno Hill in alpine tundra, elevation 5,500–6,000 ft, Nos. 753–54 and 1255, A.E. & R.T. Porsild No. 23,571; on rich herbmat slopes, No. 998.

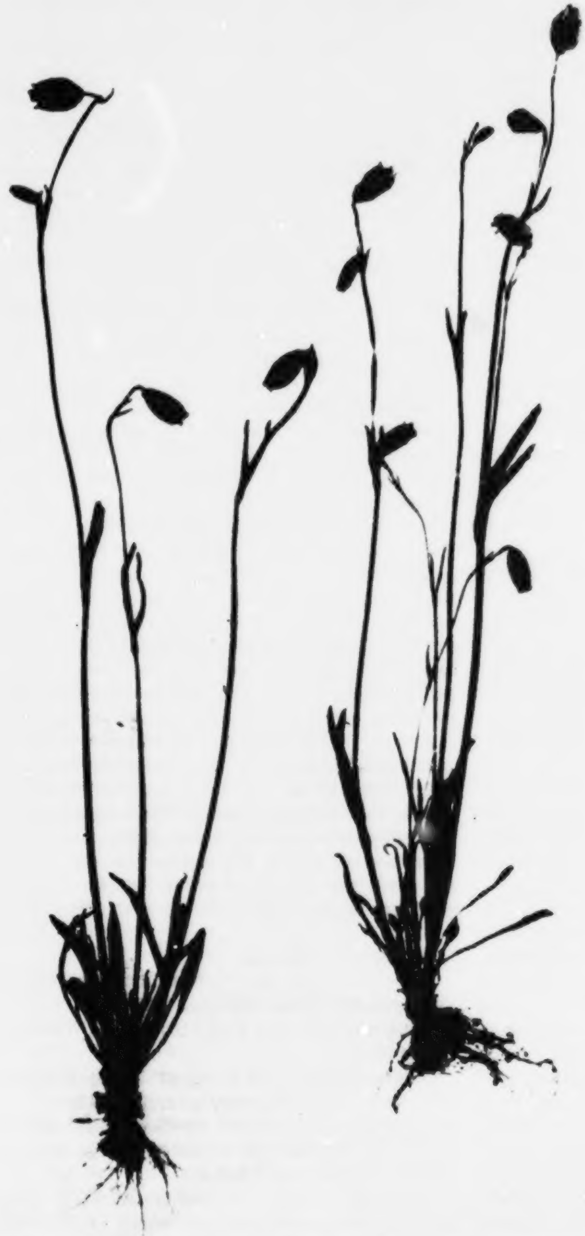
In stony and gravelly places on Keno Summit, the corms of *C. tuberosa* were frequently noted close to the surface when rarely more than one flowering stem is produced. This condition is obviously due to frost heaving, for when they grow in more sheltered places with ample snow cover in winter, the corms are invariably well below the surface, and normally produce several flowering stems, but never "long, filiform, very brittle runners", as reported, but not illustrated, by Hultén (1968: 405). *C. tuberosa* is of amphi-Beringian range, but in Alaska and Yukon it appears to be rare and always of local and disjunct occurrence. In Yukon it was first reported from the McArthur Group, of which Keno Hill is the northern spur (Porsild 1951*a*; 1966: 63).

CARYOPHYLLACEAE

Arenaria humifusa Wahlenb.
A. longipedunculata Hult., Bot. Notis. 119 (2): 313 (1966).
Stewart Plateau: Vicinity of Minto Bridge, 63°41′N, 135°51′W, very sparse and local on open gravel patches on wooded slope, elevation 2,000 ft, No. 928. Apparently a rare species in Yukon and Alaska.

In interior Alaska, the Yukon, and the Mackenzie District of the Northwest Territories, *A. humifusa* tends to be of tall growth, with the fruiting peduncles raised well above the plant mat, which may be firm or loosely tufted,

Plate 3



Melandrium apetalum (L.) Fenzl. ssp. *ogilviense* n. ssp. Flowering specimens. Approximately ⅗ natural size with long, creeping branches. Hultén (1966) considered this taller plant distinct from *A. humifusa*, but an examination of a representative material of *A. humifusa* from Alaska, the Yukon, and the Mackenzie District, as well as from isolated mountain stations in Alberta and British Columbia, failed to disclose any consistent characters whereby long-peduncled plants can be distinguished from low-grown *A. humifusa*, which, furthermore, is found coexisting with *A. "longipedunculata"* throughout its range. That this is also the case in the eastern North American Arctic was noted by Polunin (1940: 198), who wrote: "Thus, in most southern specimens the pedicels are elongated sufficiently to carry the capsule clear of the tuft of leaves that in the North almost envelops the bud and sometimes even the capsule." It would appear then that the elongation of the peduncle in *A. humifusa* is merely the result of a favourable microclimate or local edaphic conditions.

A. cylindrocarpa Fern. (Fernald 1914), from Newfoundland and Gaspé, Quebec, with freely branching stems and fruiting peduncles up to 3 cm long, which Fernald himself later reduced, differs no more, at least in appearance, from *A. humifusa* Wahlenb. than does *A. longipedunculata* Hult.

Cerastium vulgatum L.
Vicinity of Mayo, 63°35′N, 135°54′W, on gravelly river terraces, where obviously fully established and flowering abundantly on 14 June 1967, No. 506. Numerous last season's fully formed but now empty capsules are still attached. In Yukon the species was first collected near Dawson in 1899 by R.S. Williams and J.B. Tarleton (Britton and Rydberg 1901).

Melandrium affine (J. Vahl) Hartm.
Ogilvie Mountains: Dempster Highway along Miles 44–46, in subalpine herbmat, elevation 3,800 ft, No. 1436, with almost ripe seeds on 25 June 1968; Miles 83–86 on rocky ledges in canyon of Blackstone River, No. 1632. In Yukon previously reported from a few collections along the Canol Road and along the Arctic Coast (Porsild 1951*a*).

Melandrium apetalum (L.) Fenzl. ssp.
arcticum Hult.
Keno Summit, 63°58′N, 135°42′W, on solifluction lobes, elevation 5,500–6,000 ft, No. 1074. Ogilvie Mountains: Mountain east of Dempster Highway, Miles 50–54, in alpine herbmat, No. 183; near summit of same mountain, elevation 6,500 ft, No. 1569; gravelly river flat near Mile 57, No. 222; northern slope of mountain east of Miles 54–57, No. 389.

The above series is rather uniform and consists of rather small tufted plants, with slender stems rarely over 20 cm tall; the single flower is nodding in anthesis, but stiffly erect when in seed. A chromosome count based on No. 1078, erroneously published as *M. Taylorae*, gave 2n=24 (Mulligan and Porsild 1970).

Melandrium apetalum (L.) Fenzl. ssp.
attenuatum (Farr) Hara, J. Fac. Sci. Univ. Tokyo, Sect. 3, Bot. 6:42 (1952).
Keno Summit, 63°58′N, 135°42′W, elevation 5,500–6,000 ft, on gravelly slide above creek beds, No. 710. Ogilvie Mountains: Along Dempster Highway near Miles 83–86, on dry ledges and slopes below canyon wall, No. 1631.

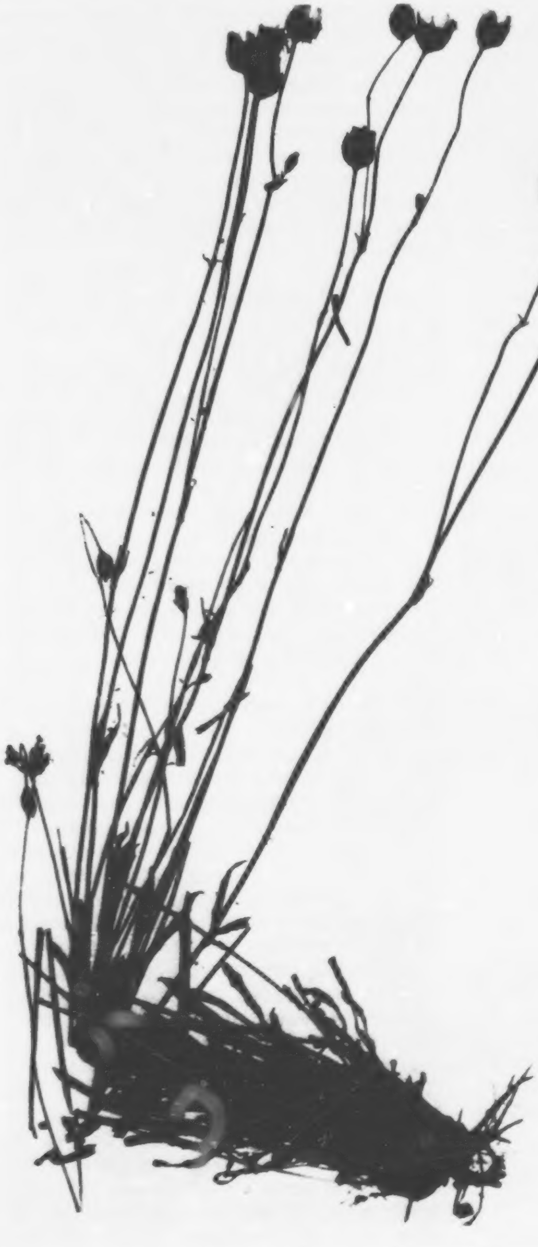
As I have previously stated (Porsild 1966: 27–28, map 59), there are now good and sufficient reasons for considering this taxon a distinct cordilleran race, or perhaps even a species, related to, but constantly distinct from, *M. apetalum*, the range of which rarely, if ever, overlaps that of ssp. *attenuatum*.

Melandrium apetalum (L.) Fenzl. ssp.
***ogilviense* n. ssp.**
Caules 40–60 cm longi, erecti, pilis crispulis sparsis vestiti; folia anguste-oblanceolata 5–6 cm longa et 3–5 mm lata, uninervia, ad marginem ciliata. Flos unicus vel plerumque 2 (3), per anthesin nutans, postea erectus, pedunculo ad 10–20 cm longo; calyx 1.5 cm longus, fructifer inflatus, obscuro-striatus; corolla purpurea calyce sublongior; semine reniformi, 2.0–2.4 mm lato, ala lata inflata, 2n=48.

Ogilvie Mountains: Dempster Highway, Mile 81, calcareous river flat along Blackstone River, elevation 2,300 ft, flowering on 3 July 1968, No. 1545 (Plate 3); same place, with mature fruits, 19 July 1968, No. 1612A (Type: CAN), Plate 4; Blackstone River valley, Miles 83–85, on calcareous talus slope, fruiting on 23 July 1968, No. 1630; on river flat, No. 1557; Dempster Highway, Mile 115, in damp, calcareous tundra flat, No. 1975. Chromosome count on root tips from No. 1612 gave 2n = 48 (Mulligan and Porsild 1970, where reported as *M. apetalum*).

The ssp. *ogilviense* differs from *M. apetalum* ssp. *apetalum* by its stems up to 60 cm

Plate 4



Melandrium apetalum (L.) Fenzl. ssp. *ogilviense* n. ssp. (Type). Fruiting specimen. Approximately ⅔ natural size tall, by the number of flowers, 2–3, rarely one, and by its higher chromosome count. The seeds are similar to those of ssp. *apetalum*, being 2.0–2.4 mm in diameter, including the broad, more or less inflated margin. The ssp. *ogilviense* is common locally on calcareous soils in the Ogilvie Mountains between Miles 81–150, but not seen elsewhere, and is apparently endemic in central-northern Yukon.

Melandrium Taylorae (Robins.) Tolm.
Vicinity of Mayo, 63°35′N, 135°45′W, on gravelly river terraces, No. 469; Mount Haldane, 63°51′N, 135°40′W, floor and bottom slopes of main cirque, elevation 4,300 ft, in slide-rock, No. 581; Midnight Dome near Dawson, 64°04′N, 138°15′W, in open woods near summit, No. 1423. Ogilvie Mountains: Blackstone River valley, gravelly river flats, along Dempster Highway, Miles 81–82, Nos. 1121, 1472, and 1531. A chromosome count from root tips grown from seed from No. 1121 gave 2n=48 (Mulligan and Porsild 1969).

The material is rather uniform, with few to many slender flowering stems, up to 40 cm tall, from a rather weak taproot. Nos. 469, 581, 1423, and 1472 are in anthesis when the 3-5 flowers are congested on short peduncles that elongate as the seeds ripen and, at maturity, may be 3–10 cm long. The mature capsules are 6–8 mm long, and the seeds about 1 mm in diameter, with a narrow but distinct wing. Although the peduncles are not actually glandular, the seeds are often seen to adhere to the moniliform, transversely walled hairs covering the peduncles. In Yukon otherwise known from a few collections from the Dawson area.

In habit *M. Taylorae* resembles *M. triflorum* (R. Br.) J. Vahl of northern Greenland and the eastern Canadian Arctic, and also the western *M. taimyrense* Tolm., but differs from them by its reddish-brown seeds that are flat and have a narrow but distinct wing, whereas in *M. triflorum* and *M. taimyrense* the seeds are almost black, angular, or prismatic, and entirely wingless (Porsild 1943).

Minuartia arctica (Stev.) Aschers. & Graebn.
Stewart Plateau: Mount Haldane, elevation 5,000 ft, on slide-rock, No. 667; Keno Summit, forming large cushions in alpine tundra, elevation 6,000 ft, Nos. 538 and 704. A chromosome count of 2n=ca. 80 was obtained from No. 704 (Mulligan and Porsild 1969). Ogilvie Mountains: River flats along Dempster Highway, Mile 56, No. 53; mountain east of Dempster Highway, elevation 5,000–6,000 ft, Nos. 146 and 404; Mile 82, in calcareous alpine tundra, No. 1495; moist floodplain tundra at foot of limestone hills, Mile 110, A.E. & R.T. Porsild, Nos. 23,617 and 23,619. A calciphilous alpine species common locally in Yukon, but collected only a few times north to the Arctic Coast (Porsild 1951*a*).

Minuartia biflora (L.) Schinz & Thell.
Arenaria sajanensis Willd.
Mayo District: Keno Hill, 63°58′N, 135°42′W, in alpine herbmats near summit, elevation 4,500–6,000 ft, Nos. 954, 1027, and 1256. Ogilvie Mountains: On river flats along Dempster Highway, Mile 51, elevation 4,200 ft, No. 123.

Minuartia dawsonensis (Britt.) Mattf.
Minuartia stricta sensu Hult., Fl. Alaska & Yukon (1944), *pro max. pte.*, not *M. stricta* (Sw.) Hiern., nor *Arenaria stricta* Michx., Fl. Bor.-Am. 1:274 (1803).
Stewart Plateau: Minto Bridge, damp meadows by lakeshores, No. 529; gravelly river banks, Nos. 922 and 940. Hunker Creek near Dawson, on gravelly creek bank, No. 1399. Ogilvie Mountains: Dempster Highway, in damp, sandy, and gravelly places, near Miles 83–86, Nos. 1558 and 1624; Miles 96–98, No. 1712. A lowland species of quite different distribution and ecology than the smaller and arctic-alpine *A. uliginosa* Schleich. (*Minuartia stricta* (Sw.) Hiern.), with which it is sometimes confused. For a detailed description of differences and habit, see Porsild 1951*a*: 166.

Gjaerevoll (1958: map 8) is mistaken in believing *A. dawsonensis* is endemic in central Alaska and Yukon. It is actually a wide-ranging eastern species, with a western limit in central Alaska (Fernald *in* Gray 1950: 620).

Minuartia obtusiloba (Rydb.) House
Minuartia yukonensis Hult., Ark. Bot. ser. 2, vol. 7 (1):52 (1967).
Dawson area: Dominion Creek, 63°37′N, 138°42′W, in damp alpine tundra, No. 1407; Midnight Dome, 64°04′N, 139°42′W, in open woods near summit, No. 1422. Mayo district: Moose Creek, 63°37′N, 136°25′W, sandy creek banks, No. 990. Ogilvie Mountains: Dempster Highway, Mile 84, in moist herbmats, No. 1672; Richardson Mountains: 13 miles northeast of Lapierre House, Youngman & Tessier, No. 591; Firth River 68°50′N, 140°33′W, *iidem*, No. 154.

Hultén (1943), with some reservations, followed Gray (1895) and Fernald (1919), who identified the plant then known from unglaciated central Yukon and Alaska with *Arenaria laricifolia* L. (*Minuartia laricifolia* (L.) Schinz & Thell.), observing that Gray and Fernald also had wondered if the North American plant really could be conspecific with that of central European mountains. Without offering new evidence, Hultén (1967), on geographical rather than morphological grounds, proposed *Minuartia yukonensis* n. sp. for the Yukon and Alaska plant that he had formerly called *Arenaria laricifolia*. As the type, he selected Calder & Billiard, No. 3359, from near the mouth of Klondike River (near Dawson City). It is not clear, however, if Hutén intended to include under *M. yukonensis* the plant that he referred (1943:682) to *M. laricifolia* from "south of the pleistocene glaciation from Washington and Montana to Idaho and Wyoming", which, according to Hitchcock and Cronquist (1964), is *A. obtusiloba* (Rydb.) Fern. Unfortunately, Hultén's diagnosis of *M. yukonensis* is so general that it fits equally well not only the central European plant, from which he intended to separate *M. yukonensis*, but also the plant of Washington, Montana, and Wyoming, which, incidentally, is also found in the Canadian Rocky Mountains. *A. obtusiloba*, in the Rocky Mountains as well as in the Yukon and Alaska, is quite variable in general habit as well as in regard to degree and type of pubescence. In moist herbmats it tends to be loosely matted, whereas on slide-rock or in exposed situations it is caespitose, often "anchored" by a thick, subligneous taproot.

Hultén's illustration of *M. obtusiloba* (1968: 430) was drawn from a condensed plant that had probably grown in a dry, exposed habitat. In the Yukon as well as in the Rocky Mountains, specimens that match Hultén's illustrations of either *Minuartia obtusiloba* or *M. yukonensis* can be found on the same mountain, but on different exposure or elevation (Hultén 1968:432).

A. obtusiloba was also reported from the east branch of the Mackenzie Delta (Porsild 1943:30).

Several published chromosome counts of the European *Minuartia (Arenaria) laricifolia* report 2n=26, which is also the number obtained for *A. obtusiloba* from Boulder, Colorado (G.A. Mulligan, verbal communication).

Minuartia Rossii (R. Br.) Graebn. ssp. ***elegans*** (Cham. & Schlecht.) Maguire
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, No. 224, with young fruits on 18 July 1966; on hummocks in alpine calcareous tundra, Miles 81–83, Nos. 1498 and 1523; calcareous, stony floodplain, Mile 110, A.E. & R.T. Porsild, No. 20,618. The present collections close a gap between southwestern Yukon (Porsild 1966) and the Arctic Coast.

Silene acaulis L. var. ***subacaulescens*** (Williams) Fern.
Ogilvie Mountains: Along Dempster Highway near Mile 44, in turfy places by brook, elevation 3,800 ft, No. 1440; Mount Haldane, 63° 51′N, 135°50′W, northern slope on rocky ledges of cirque, No. 570. Typical *S. acaulis* were collected in the Ogilvie Mountains near Dempster Highway, Mile 53, in alpine herbmats, elevation 4,200 ft, No. 113. The present reports are the first for central Yukon, where both taxa are apparently rare and alpine (Porsild 1951*a*: 170–71).

Spergularia rubra (L.) Presl
Minto Road, 13 miles north of Mayo, in gravelly place by creek, elevation 2,000 ft, Nos. 512 and 646. A chromosome count of 2n=36 was obtained from No. 646 (Mulligan and Porsild 1969); "Highlet Gulch", a tributary to Minto Creek, 63°45′N, 136°10′W, in gravelly places by creek, elevation 4,000 ft, No. 837. An introduced weedy species, but apparently well established in the Mayo mining area. The present is the first report of this species from the Yukon Territory.

Stellaria Alsine Grimm
Minto Road, 13 miles north of Mayo, along banks of small creek near road, elevation 2,000 ft, where it forms dense clumps with stems 30 cm tall; the plants were fully withered, with masses of ripe seeds on 26 Aug. 1967, No. 1239, 2n=52 (G.A. Mulligan and A.E. Porsild, unpublished). An introduced, but locally well-established, weedy species new to the flora of Yukon.

Stellaria crassifolia Ehrh.
Vicinity of Mayo, 63°35′N, 135°45′W, in moss by small lake in the shade of birch and willows, No. 1196. Ogilvie Mountains: Dempster Highway, Mile 95, in wet sand by a pond, No.

1734. The last number bridges a gap between the Dawson area and the Arctic Coast.

NYMPHAEACEAE

Nuphar polysepalum Engelm.
Stewart Plateau: Vicinity of Mayo, in small lake north of town, in full flower on 13 July 1967, No. 808; small lake west of Elsa, No. 1166, with fully ripened seeds on 11 Aug. 1967. Ogilvie Mountains: Dempster Highway in lake near Miles 74–75, Nos. 315, 1786, and 1815; Gravel Lake on Stewart River, 60 miles south of Dawson, No. 187.

RANUNCULACEAE

Anemone multiceps (Greene) Standley
Hultén's statement (1967:56; 1968:466) that *Anemone multiceps* is merely "a low-grown arctic form of A. Drummondii" is very difficult to understand. As confirmed also by Boraiah and Heimburger (1964:919), "The *Pulsatilla*-like appearance of its flowers with deep red styles and blue anthers [and filaments], make the species morphologically distinct [from *A. Drummondii*], as does its tufted habit so well characterized by the specific name given it by Greene, as against the less compact habit of *A. Drummondii*."

In the Richardson and British mountains of northern Yukon and in the mountains of northern and northwestern Alaska, *A. multiceps* and *A. Drummondii* may grow together, but in no instance have I noted specimens that in any way could be considered intermediate. By its dwarfed and compact habit and dark purplish-blue flowers up to 4 cm broad, it is a strikingly beautiful species. In *A. Drummondii* the flowering stems are commonly twice as tall as those of *A. multiceps*, the expanded flowers usually 2 cm and very rarely 3 cm in diameter, the sepals creamy white or pale bluish dorsally, and the anthers and filaments always creamy white, as are the styles.

A. multiceps is apparently endemic in calcareous areas in the mountains of northern Yukon and Alaska, and thus far has not been reported east of the 140th meridian. *A. Drummondii* is a herbmat species, and in the Canadian Rocky Mountains often ascends far above the timberline, where it may be dwarfish of habit but never even remotely simulates *A. multiceps*.

A. multiceps is from Cape Thompson, Alaska (Plate 5).

Caltha natans Pall.
Ogilvie Mountains: In wet, swampy places along Dempster Highway, Miles 90–93, Nos. 1584 and 1746, the last with fully ripened fruits on 2 Aug. 1968, which provided a chromosome count of $2n = 32$ (Mulligan and Porsild 1970).

Caltha palustris L. ssp. ***arctica*** (R. Br.) Hult.
Ogilvie Mountains: Common in ponds and marshes along Dempster Highway, Miles 55–60, No. 2.

Delphinium glaucum S. Wats.
Vicinity of Mayo, 63°35′N, 135°45′W, boggy depression in river terrace, No. 857. Ogilvie Mountains: Dempster Highway, Mile 57, on river terraces, No. 370; Mile 86, on wooded slope along Blackstone River, No. 1666; Mile 110 among willows in wet floodplain, A.E. & R.T. Porsild, No. 23,624. These collections bridge a gap in the distribution of *D. glaucum* between central Yukon and northern Richardson Mountains.

Pulsatilla ludoviciana (Nutt.) Heller
Mount Nansen, growing with *P. ludoviciana* f. *glabrata*, No. 1385; Mayo district, 63°35′N, 135°55′W, on gravelly river terraces, elevation 1,600 ft, No. 449, with fully mature fruits on 31 May 1967.

Pulsatilla ludoviciana (Nutt.) Heller f. ***glabrata* n. forma**
Planta omnina glabra, sepalis albis.

A single, totally glabrous and white-flowered specimen, growing among typical *P. ludoviciana*, the flowers and several leaves apparently normal and functional. Mount Nansen, 62°06′N, 137°17′W, 40 miles west of Carmacks, top of scree, No. 1386 (Type: CAN).

Ranunculus abortivus L.
Stewart Plateau: Minto Road, 13 miles north of Mayo, shores of small lakes and creeks, No. 509A. In Yukon otherwise known from the Canol Road, where I believed it to be fully indigenous (Porsild 1951a).

Ranunculus aquatilis L. var. ***eradicatus*** Laest.
Stewart Plateau: Crystal Lake northwest of Keno Hill, in water 0.5 m deep, No. 1237; in small lake on the northeastern slope of Mount Haldane, No. 1147. Ogilvie Mountains: Shallow pool in river flat along Dempster High-

Plate 5

Anemone multiceps (Greene) Standley (Photograph by Raymond D. Wood)
Approximately ⅘ natural size

way, Miles 51–58, Nos. 302 and 438 (Porsild 1966: 29).

Ranunculus aquatilis L. var. ***subrigidus*** (Drew) Breitung
R. circinatus Sibth. var. *subrigidus* (Drew) Benson
Stewart Plateau: Minto Road, 13 miles north of Mayo, in shallow creek, with ripe seeds on 13 Aug. 1967, No. 1184, 2n = 32 (Mulligan and Porsild 1969). Ogilvie Mountains: Lake west of Dempster Highway, Mile 58, No. 328; Mile 82, Chapman Lake in water 2 m deep, flowering on 5 Aug. 1968, No. 1757 (Porsild 1966).

Ranunculus Eschscholtzii Schlecht.
Stewart Plateau: Keno Summit, on moist herbmat slopes, elevation 5,500–6,000 ft, Nos. 522, 723, 777, 1039, 1043, and 1044; Mount Haldane, 63°51′N, 135°50′W, snowbed slopes in open *Abies* forest, elevation 4,000 ft, No. 605; alpine slopes to 5,500 ft, No. 596. Ogilvie Mountains: West of Dempster Highway, Mile 51, No. 194; Mile 58, near snowflush, Nos. 331 and 491, where it grew associated with *R. nivalis*. No. 723 from Keno Summit and No. 331 from the Ogilvie Mountains represent a peculiar peloric form in which all, or at least some, of the stamens are petaloid and deeply notched, or even 3-4-fid. *R. Eschscholtzii* is the most common representative of the genus in alpine herbmats of central Yukon.

Ranunculus gelidus Karel. & Kiril.
Ogilvie Mountains: Mountains east of Miles 57–58 on Dempster Highway, on slide-rock, elevation 6,000 ft, No. 257, 2n = 16 (Mulligan and Porsild 1969). See also Porsild 1966: map 65.

Ranunculus Gmelini DC.
Minto Bridge, 63°41′N, 135°51′W, in shallow ponds with *Potamogeton* and *Myriophyllum*, No. 881; Halfway Lakes north of Mayo, 63°48′N, 135°47′W, in shallow pond, No. 640. Ogilvie Mountains: Dempster Highway, in ponds along Miles 83–86, No. 1629.

Ranunculus hyperboreus Rottb.
Ogilvie Mountains: River flats along Dempster Highway, Miles 54–56, on wet clay by edge of pond, elevation 2,500 ft, No. 11; flowering on 27 June 1966, Nos. 442 and 443, with flowers and ripe fruits on 6 Aug.; Keele Lake area, 63°31′N, 130°28′W, W.H. Butler, No. 19. A chromosome count of 2n = 32 was obtained from No. 442 (Mulligan and Porsild 1969).

Ranunculus lapponicus L.
Vicinity of Mayo, 63°35′N, 135°45′W, in damp, mossy willow thicket, No. 630; upper Rosebud Creek, 63°17′N, 138°25′W, J.D. Campbell, No. 101; Hungry Lake, 65°40′N, 136°00′W, Youngman & Tessier, No. 699.

Ranunculus natans C.A. Mey. var. ***intertextus*** (Greene) Benson
Vicinity of Minto Bridge, 63°41′N, 135°51′W, elevation 1,900–2,000 ft, in swampy pools, No. 547. The specimens collected on 21 June 1967 have flowers and young fruits.

By its larger size, distinctly reniform leaves, some up to 1.5 cm wide, and by its globose fruiting heads of 40 or more achenes, *R. natans* var. *intertextus* is at once distinguished from *R. hyperboreus* Rottb.

New to the flora of Yukon, and separated by a gap of 1,000 miles from the nearest known station of *R. natans* in the Alberta Rocky Mountains.

Ranunculus nivalis L.
Ogilvie Mountains: Rather common in alpine tundra in mountains east of the Dempster Highway, Miles 50–58, Nos. 94, 342, 343, 408, and 465. Stewart Plateau: Keno Summit, in alpine tundra, elevation 6,000 ft, No. 721; Mount Haldane, in damp moss, elevation 4,000 ft, No. 572. An arctic species in central and southern Yukon, restricted to alpine habitats.

Ranunculus occidentalis Nutt. var. ***brevistylis*** Greene
Since first reported from Yukon (Porsild 1951*a*: 181), this taxon has been collected twice in southwestern Yukon: Alsek River valley, north side of Lowell Glacier, 60°11′N, 137°19′W, A.M. Pearson, No. 67-162A; Bullion Creek, 60°58′N, 138°36′W, elevation 4,000 ft, *idem*, No. 70-9.

Ranunculus Purshii Richards.
Stewart Plateau: Along road to Moose Creek, 63°37′N, 136°25′W, in shallow water, No. 984. An eastern boreal forest species, in Yukon thus far reported a few times in the southwest (Porsild 1966: map 66). Of similar habit as *R. Gmelini*, which, however, is a smaller and an amphi-Beringian plant with a chromosome count of 2n = 32 or 2n = 16, whereas that of

the eastern boreal forest species, *R. Purshii*, is 2n = 64 (Mulligan and Porsild 1969).

Ranunculus pygmaeus Wahlenb.
Stewart Plateau: Keno Hill, in wet gravel, elevation 5,500 ft, No. 962. Mayo district: From Black Ram to Hotspring Creeks, H. Bostock, No. 209. Ogilvie Mountains: Alpine herbmats and snowflushes on mountain east of Dempster Highway, Miles 50–54, elevation 4,800 ft, No. 164; mountain north of McQuesten River, R.L. Christie, No. 43; Mount Decoeli in southwestern Yukon, by alpine streamlet, Schofield & Crum, Nos. 8056 and 8075. In Yukon otherwise known from the Canol Road and from the Arctic Coast (Porsild 1951a).

Ranunculus reptans L.
Ogilvie Mountains: Dempster Highway, Mile 54, in small summer-dry pond, No. 457, associated with *R. hyperboreus*, No. 443. In Yukon previousy known only north to Mayo.

Ranunculus sceleratus L. ssp. ***multifidus*** (Nutt.) Hult.
Stewart Plateau: Vicinity of Mayo, lakeshore northeast of town, No. 674; in meadow near Five Mile Lake, No. 780; riverbank under shading willows, No. 1216, 2n = 64 (Mulligan and Porsild 1969). Ogilvie Mountains: Dempster Highway, Mile 81, in wet gravel, No. 1529; Carmacks Road, 71 miles north of Whitehorse, approximately 61°40′N, wet, calcareous lakeshore, Nos. 1860 and 1870.

Ranunculus septentrionalis Poir.
Stewart Plateau: Vicinity of Mayo, 63°35′N, 135°45′W, edge of slough by mouth of Mayo River, No. 791. An eastern species of marshy woodland situations of which only a few widely disjunct western stations are known: East of Fort Liard in the southwestern corner of the Mackenzie District (Jeffrey 1961); Nordegg, in southwestern Alberta, M.O. Malte, No. 1438. New to the flora of Yukon.

Thalictrum alpinum L.
Ogilvie Mountains: Mountain east of Dempster Highway, Mile 54, elevation 5,000 ft, No. 165; subalpine herbmats on limestone, Miles 81–85, Nos. 1110, 1467, and 1561; very common on lower slopes of limestone hills near Mile 110, A.E. & R.T. Porsild, No. 23,623; Bonnet Plume Lake, 64°20′N, 132°00′W, Butler and Olsen, No. 44.

Thalictrum sparsiflorum Turcz. var. ***Richardsonii*** (A. Gray) Boivin
Vicinity of Mayo, Nos. 696, 923, and 1205. Ogilvie Mountains: In willow thickets along Dempster Highway, Mile 95, No. 1746. The last is its known northern limit in Yukon. A chromosome count of 2n = 14 was obtained from No. 1205 (Mulligan and Porsild 1969).

FUMARIACEAE

Corydalis pauciflora (Steph.) Pers.
Apparently common in alpine herbmats on "Keno Hill Dome", Nos. 764 and 1077, on Mount Haldane, No. 600, as well as in the Ogilvie Mountains, north to about Mile 65 on Dempster Highway, Nos. 63 and 129; the last is the var. *albiflora* Porsild, described from the Canol Road in southeastern Yukon (Porsild 1951a).

PAPAVERACEAE

Papaver alaskanum Hult. f. ***stenopetalum*** n. **forma**
Petalis anguste-oblanceolatis, 2.0 cm longis, 0.5 cm latis differt.

Ogilvie Mountains: River flat along Dempster Highway, Nos. 19A and 19B (Type: CAN), from a colony of tall plants, differing from typical *P. alaskanum* by their narrowly oblanceolate petals 2.0 cm long and 0.4–0.5 cm wide. While in most plants in the colony the flowers appeared sexually normal, the anthers in some had been converted into peculiar leathery scales, 4 mm long and 2 mm wide, dorsally covered with stiff black bristles similar to those normally found on a *Papaver* capsule, and fringed by a thin, yellowish-green ruffle or pleat along the edge. In none of these peloric flowers were there normal stamens, whereas the yet immature ovary and stigma appeared to have developed normally, though they were obviously nonfunctional.

A chromosome count obtained from seed grown from a nearby and quite normal colony of *P. alaskanum*, No. 365, gave 2n = 42 (Mulligan and Porsild 1969), which is the count commonly obtained from the *Papaver radicatum* type from Alaska and the Yukon, whereas in *P. Macounii* the count was 2n = 28 (Johnson and Packer 1968). In No. 365 the capsules were unusually large, averaging 2.2 cm in length, tapering gradually from the stigma towards the peduncle. The petals were not narrower than in typical *P. alaskanum*.

Papaver Keelei Porsild, Nat. Mus. Can. Bull. 101:20 (1945); *ibid.*, 121:185; Pl. 16, figs. 4–7 (1951) not *P. Maçounii* sensu Hult. Fl. Alaska & Neighboring Territories. 491 (1968).
Stewart Plateau: Keno Summit, elevation 6,000 ft, in moist, alpine tundra below scree, Nos. 519, 1260, and 1262. Dempster Highway: Miles 50–54, No. 214; alpine herbmats east of Miles 50–58, Nos. 384 and 474; Mile 110, on moist tundra at the base of limestone hills, flowering on 10–11 July 1970, A.E. & R.T. Porsild, Nos. 23,626–27.

The type of *P. Keelei* came from the Plains of Abraham near the crest of the Mackenzie Mountains at Mile 82 east of the Canol Road, where it was common on limestone rubble at 6,000 ft elevation (A.E. Porsild & Breitung, No. 11,782). Since 1945 it has been collected a number of times in the Mackenzie and Richardson mountains, as well as in the mountains of central and northern Yukon and Alaska, and everywhere it appears to favour calcareous soil. In this preference and in its non-caespitose habit and narrow capsule (well illustrated in the plate cited above), it differs markedly from most native poppies reported from northwestern North America, and perhaps most of all from *P. Macounii*, to which Hultén (1968) refers it. A chromosome count from root tips grown from seeds of No. 519 from Keno Hill gave 2n = 70, whereas that of *P. Macounii* is reported to be 2n = 28 (Löve and Freedman 1956).

Papaver Walpolei Porsild, Rhodora 41:231; Pl. 552, figs. 4–10 (1939).
Ogilvie Mountains: In moist, calcareous seepage at base of limestone hill south of Dempster Highway, Mile 110, A.E. & R.T. Porsild, No. 23,625. New to the flora of Canada (Porsild 1972: 236).

Our specimens, past flowering on 11 June 1970, are a perfect match for this dwarf species, until now known only from the Seward Peninsula, Alaska, where, since its discovery in 1926, it has been collected a number of times near Nome, at Teller, and is also known from East Cape, Siberia.

P. Walpolei is the smallest of the North American poppies, with scapes rarely more than 15 cm tall; the leaves are totally glabrous, shallowly 3-lobed, or subentire, and the flowers are rarely more than 2 cm in diameter.

CRUCIFERAE

Arabis Holboellii Hornem. var. ***retrofracta*** (Grah.) Rydb.
Vicinity of Mayo, 63°35′N, 135°45′W, gravelly river terraces, Nos. 456 and 934.

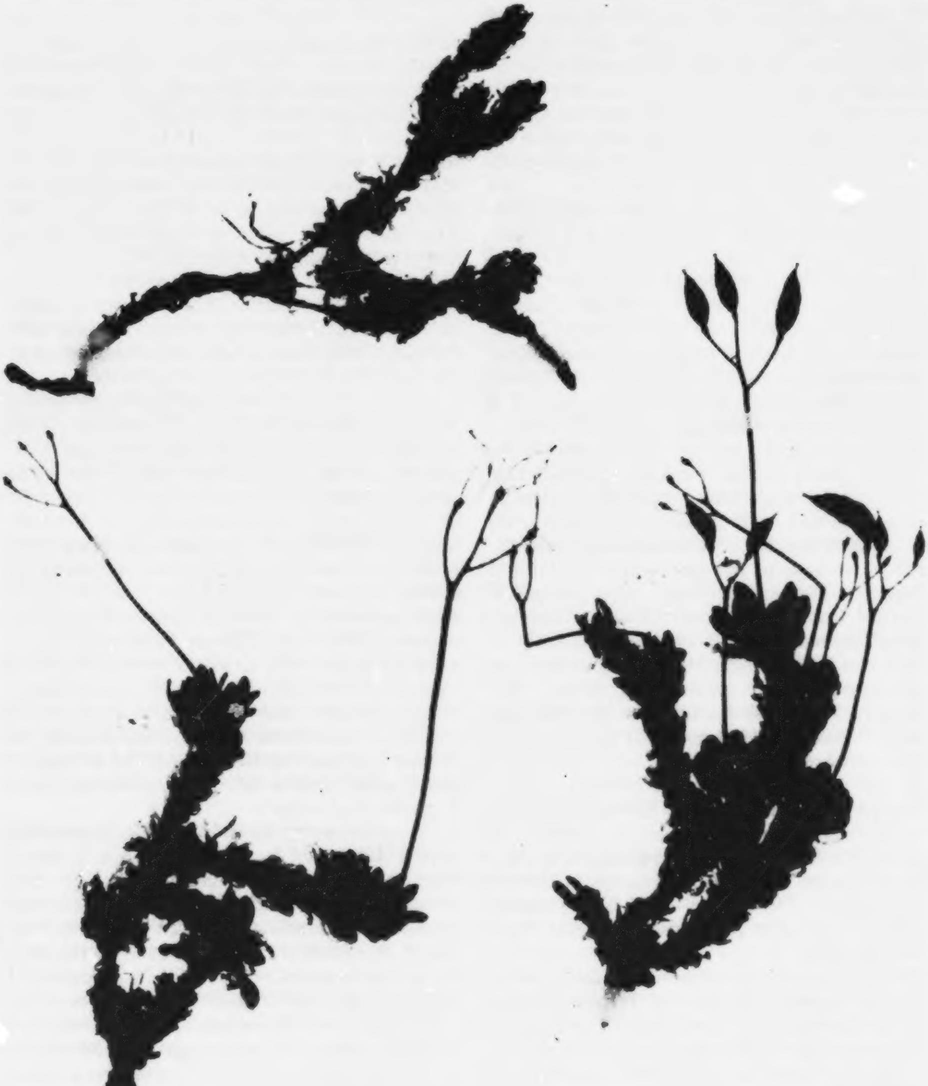
Arabis lyrata L. ssp. ***kamchatica*** (Fisch.) Hult.
Mayo District: Keno Hill, in moist, open gravelly places ascending to 6,000 ft, Nos. 749, 847, and 1275. Ogilvie Mountains: Along Dempster Highway, Miles 40–47, No. 1452; Mile 56, No. 412; Mile 63, No. 44; Miles 67 and 95, Nos. 1788 and 1739. A chromosome count from No. 1275 gave 2n = 32 (Mulligan and Porsild 1969). Nos. 1739 and 1788 also gave 2n = 32 (Mulligan and Porsild 1970).

Hultén (1967: 65) reported having collected *Arabis arenicola* (Richards.) Gelert in northern Alaska, "at Umiat, Meade R. village, Colville R. Delta, and at Ogotoruk Creek near Cape Thompson", and he later listed and illustrated what he considered to be *A. arenicola* (1968: 544). On the strength of his discovery, he also accepted (and mapped) an earlier report of that species from Golofnin Bay on the south shore of Seward Peninsula, Alaska (Gray and Watson 1895: 137). However, he apparently overlooked the fact that Hopkins (1937: 78), following an examination of the Golofnin Bay specimen preserved in the Gray Herbarium, had reported it to be "in the early flowering stage" and "to belong to some other genus of the *Cruciferae*, most probably to *Parrya*".

I have not seen Hultén's alleged specimens of the Alaskan "*A. arenicola*", but, judging from the illustration (Hultén 1968: 544) and from specimens and photographs (obtained in 1961 at Meade River village by the late Raymond D. Wood when together with Hultén), the plant in question is not *A. arenicola* but *A. lyrata* ssp. *kamchatica* (Fisch.) Hult.

Arabis arenicola is always perennial, essentially glabrous, its leaves toothed-entire, somewhat fleshy and shiny in life; the siliques are greenish purple, flat, 2.0–2.5 cm long and never less than 2 mm wide, and the seeds are distinctly in two rows. It is endemic in the eastern North American Arctic, where it is known from East Greenland, west across subarctic Canada, to slightly beyond longitude 110°W (Porsild 1964*b*: map 197). It is well illustrated by Gelert (1898: figs. 1A:c and d), by Porsild (1964*b*: fig. 40a) and by Böcher, Holmen, and Jakobsen (1968: fig. 22a).

Plate 6



Draba barbata Pohle
Approximately 1⅔ natural size

In *Arabis lyrata* ssp. *kamchatica* at least some of the leaves are pinnatifid-lyrate, sparsely pubescent, not fleshy, or greenish blue, or shiny; the siliques are linear, round in cross-section, 2–4 cm long, but never more than 1 mm in diameter, and the seeds are always in a single row.

A. lyrata var. *glabra* (DC.) Hopkins may superficially resemble *A. arenicola*, but it is normally biennial, its siliques are always narrower, and the seeds are always in a single row.

Braya glabella Richards.
Ogilvie Mountains: Moist spots on lower slope of limestone hill west of Dempster Highway, Mile 110, A.E. & R.T. Porsild, Nos. 23,629 and 23,630; same place in moist calcareous sand by brook, *iidem*, No. 23,628. In all these places we found plants in anthesis, with short flowering heads becoming much elongated in fruit. Our specimens are almost entirely glabrous; some almost mature siliques measured 1 cm in length, with slender styles 2 mm long. New to the flora of Yukon.

Braya Richardsonii (Rydb.) Fern.
B. humilis (C.A. Mey.) Robins. ssp. *Richardsonii* (Rydb.) Hult.
Ogilvie Mountains: Calcareous gravel bars along Blackstone River, elevation 3,800 ft, Dempster Highway, Mile 83, Nos. 1514 and 1701. A chromosome count of $2n = 42$ was obtained from seeds of No. 1701 (Mulligan and Porsild 1970); limestone hills near Mile 110, A.E. & R.T. Porsild, Nos. 23,631–32.

Cardamine digitata Richards.
Ogilvie Mountains: Wet, calcareous flats along Blackstone River near Dempster Highway, Mile 81, Nos. 1464 and 1536. A new southern limit in Yukon for this western arctic-alpine species.

As shown by the writer (Porsild 1943: 41; 1951*a*: 190) and by Rollins (1952: 260), *C. digitata* Richards. is the valid name for this species, and *C. hyperborea* Schulz as well as *C. Richardsonii* Hult. are therefore superfluous. Hultén (1967: 62) apparently accepted this view but, nevertheless, he later (1968: 516) used *C. hyperborea.*

Cardamine microphylla Adams
C. Blaisdellii Eastw.
"Sam Lake", Old Crow Flats, Yukon, 68°30′N, 138°05′W, dry area at top of hill, elevation 2,500 ft, A.M. Pearson, No. 71-21; Mount Sedgwick, approximately 68°58′N, 139°00′W, in moist area along creek, *idem*, No. 70-26E. An amphi-Beringian species, shown in Hultén's distribution map (1968: 516) from the north slope of Sadlerochit Mountains, and recently reported from the Richardson Mountains (Porsild and Cody 1968). In the Bering Sea area the leaflets in *C. microphylla* are distinctly 3-lobed; in the present collection and in Hultén's figure (1968) they are elliptic-oval and entire-margined. New to the flora of Yukon.

Cardamine purpurea Cham. & Schlecht.
Ogilvie Mountains: Alpine herbmats east of Dempster Highway, Miles 50–54, No. 466; river flats along Miles 56–57, Nos. 52 and 57; calcareous tundra, elevation 4,200 ft, near Miles 81–82, Nos. 1080 and 1485; calcareous, stony floodplain tundra, near Mile 110, A.E. & R.T. Porsild, Nos. 23,634–35. Mount Nansen, 62°06′N, 137°17′W, 40 miles west of Carmacks, in wet moss by alpine brook, No. 1364.

Draba barbata Pohle *sensu* Busch, Fl. Sib. et Orient. 25:304–05 (1913), but not Schulz *in* Engler, Pflanzenr. IV, 105, Heft 89:101 (1927), at least insofar as references to North American plants.
Ogilvie Mountains: Vegetated stripes on dry limestone scree west of Dempster Highway, Mile 110, elevation 4,000 ft, A.E. & R.T. Porsild, No. 23,633 (Plate 6). New to North America. Otherwise known only from easternmost Siberia.

Dense caespitosa. Rhizoma ramosum. Caules rosulis foliorum vetustis diu persistentibus obtecti. Folia dense imbricata, integerrima, liguliformi-linearia, obtusa, rigida, carinata, 7–12 mm lg. ca. 1 mm lt; * *margine pilis ad 2 mm longis et rigidis ciliata, supra et subtus pilis mollioribus densissimis simplicibus et ramosis canescentia. Scapi aphylli, cum racemo 1–4 cm lg., densissime pilis simplicibus et ramosis hirsuti. Racemus 6-12-florus, pedunculis densissime hirsutis, floriferis 1.5–9 mm lg. Sepala oblongo-ovata, dense pilis*

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* Clearly a misprint. In *Flora of the USSR*, vol. 8:386, the leaves of *D. barbata* are said to be 1.5 mm broad.

*mollibus simplicibus et ramosis, pubescentia, 1.75–2 mm lg. Petala obovata v. oblongo-obovata, obtusa v. retusa, 3.5–4.5 mm lg., 2–2.5 lt. Siliculae ovatae, glabrae v. hirsutae, stylo ca. 1.25 mm lg.**

Our specimens were in fruit, but matched rather closely the above description, except in their leaves, 2.0–2.5 mm broad (see footnote, p. 33); they are quite unlike the Rocky Mountain plant cited by Schulz, which is *D. Paysonii* MacBr. var. *Treleasii*, and do not resemble Gelert's illustration (1898: 294–95, fig. 4), which Schulz (1927) had intended as a representation of *D. barbata*. Gelert, however, thought it was *D. glacialis* Adams var. γ Hook., but, except for the remains of a previous year's silique, Gelert's figure 4 almost certainly shows the flowering state of *D. oligosperma* Hook. In our plant the almost mature siliques are lanceolate, 5–6 mm long and 2 mm wide, which agrees with the measurement given for *D. barbata* in *Flora of the USSR*, vol. 8:386; the upper surface of the leaves is loosely covered by stalked, 2-4-forked hairs, and the underside is glabrous and prominently keeled.

Draba borealis DC.
Stewart Plateau: Keno Hill, in gravelly places near summit, elevation 5,500–6,000 ft, Nos. 979, 1032, and 1276. Ogilvie Mountains: Dempster Highway, Miles 81–83, on gravelly hummocks in river valley, No. 1600. In Yukon otherwise known from half a dozen stations in the southern part.

Hultén's map (1968: 534) shows a type of distribution typical of oceanic amphi-Beringian species. Mulligan (1970: 1434), on the other hand, considered *D. borealis* an arctic-montane species, and on his map (1970: map 3) indicated that it is wide-ranging in the Canadian Rocky Mountains, and that beyond Great Bear Lake it reaches the southern islands of the Canadian Arctic Archipelago.

Draba cinerea Adams
Ogilvie Mountains: On dry limestone ledges west of Mile 82 on Dempster Highway, elevation 4,200 ft, No. 1082. Also on Mount Gray northeast of Whitehorse, on limestone cliffs, elevation 5,000 ft, No. 1353A.

Draba crassifolia Grah.
Keno Hill, 63°58′N, 135°42′W, in herbmat slopes between 4,500 and 5,500 ft elevation, No. 953. Ogilvie Mountains: River flats along Dempster Highway, Miles 65–66, in damp sand, No. 72; mountain east of Miles 50–54, elevation 4,800–5,000 ft, Nos. 167A and 476; Mile 47, No. 1852. In Yukon otherwise known from a single station in the Pelly Mountains (Porsild 1951a), and from mountains in southwestern parts.

Draba exalata El. Ekm., Svensk Bot. Tidskr. 25 (4):489; Pl. 5, fig. 3 (1931).
Mount Gray northeast of Whitehorse, on limestone cliffs near summit, elevation 5,000 ft, No. 1353A. The two specimens in the collection are young plants, flowering for the first time, each with a single, rooted rosette.

A very rare and little-collected species, long known only from the type locality near Nome, Alaska, with caespitose, long-marcescent, and crowded basal leaves, softly stellate-pubescent on both sides, the underside with a prominent midrib; scapes short-pubescent, 5–7 cm tall; petals pale yellow, siliques ovate, 4–5 mm long, thinly pubescent, style 0.5 mm long.

Draba exalata is "new" to the Yukon, but was reported by Cody and Porsild (1968: 268) from several stations in the southern Mackenzie Mountains, Northwest Territories. Incidentally, Hultén's illustration (1968: 524) purporting to represent *D. exalata*, does not at all resemble the type illustrated by Ekman (1931: Pl. 5, fig. 3).

Draba fladnizensis Wulf.
Stewart Plateau: Keno Summit, in open gravel patches above continuous vegetation, elevation 6,000 ft, No. 1069; same place on rocky ledges, No. 708. Ogilvie Mountains: On rocky ledges along Dempster Highway, Mile 86, Nos. 1645–46. These collections are the first from Yukon Territory.

Draba glabella Pursh
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, Nos. 227 and 228; rocky

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* Quoted from Busch (1913: 304–05), the above is presumably the diagnosis originally proposed by Pohle (1914:467), and is at variance at a great many points with that given by Schulz (1927). Schulz had seen no Siberian material and had identified *D. barbata* with the cordilleran plant now recognized as *D. Paysonii* Macbr., which does not even resemble *D. barbata* Pohle. The illustration in Hultén (1968: 529) closely matches flowering specimens of *D. barbata* in the Leningrad Herbarium.

ledges in canyon near Mile 86, No. 1644; on herbmat slopes near Mile 84, No. 1677. In all collections the siliques are very narrow, averaging from 2.0–2.5 mm wide, broadest below the middle, and from 10–18 mm long, on peduncles one-third to one-half the length of the silique: the valves are glabrous or finely hirtellous, and the style is slender and only 0.5 mm long.

Draba lactea Adams
Ogilvie Mountains: In alpine herbmats on mountain east of Miles 50–54 on Dempster Highway, No. 470. Apparently rare in central Yukon (Porsild 1966).

Draba lanceolata Royle
Keno Hill, 63°58′N, 135°42′W, on dry rocky southwestern slope, No. 739. Ogilvie Mountains: On gravelly river flats along Dempster Highway, Miles 57–58, Nos. 288 and 427; on dry, calcareous river flats, Mile 81, elevation 4,200 ft, No. 1490. Also from Mount Gray northeast of Whitehorse, on limestone cliffs, No. 1331.

Draba longipes Raup
Keno Hill: Very common on rather moist herbmat slopes and occasional on moist gravel near the summit, elevation 6,065 ft, Nos. 528, 705–07, 743, 974, 1022, 1070, and 1277–78; flowering from early July. Ogilvie Mountains: Alpine herbmats on mountain east of Dempster Highway, Miles 57–58, Nos. 401–02 and 494; Miles 44–46, Nos. 1441–42; Mile 83, No. 1515. Old Crow Flats, 68°N, 138°W, elevation 2,500 ft, A.M. Pearson, No. 70-21.

As predicted (Porsild 1966:33) *Draba longipes* has now become recognized as one of the most common members of the genus in moist, alpine herbmats throughout Yukon.

Draba Macounii Schulz
Ogilvie Mountains: Very sparse at 5,800–6,500 ft on wet, gravelly northern slope of mountain east of Dempster Highway, Miles 51 and 54, Nos. 471 and 1579. The latter collection consists of 6 specimens, each with a short, compact branched caudex and a stout taproot; the leaves are oblong, about 5–7 mm long, loosely imbricated, nerveless, long-ciliate and glabrous on both surfaces; the compact flowering heads on 7 July were barely raised above the leaf-cushion; remains of last year's fruiting scapes, 5–6 mm long; sepals oval, glabrous or with a few simple hairs; petals pale yellow, obovate, the young siliques glabrous with a short, coronate style. No. 471 was collected on 15 Aug. 1966, which was obviously a more favourable season, because the scapes in that collection are 1.5–2.0 cm long, each with 3–5 lanceolate siliques, 5–7 mm long.

Both collections closely match the following: the type of *D. Macounii* from Kicking Horse Lake, Rocky Mountains, Alberta, J. Macoun, 20 July 1885, CAN No. 61,572; a large series of *D. Macounii* in my collection from the Canadian Rockies; four collections from the vicinity of Summit Pass, British Columbia, 58°31′N, 124°34′W, H.M. Raup & D.S. Correll, Nos. 10,660, 10,684, 10,688 and 10,692, distributed as *Draba macrocarpa* Adams; and H.M. Raup & E.C. Abbe, No. 3970 from Mount Selwyn, British Columbia, 56°01′N, 123°39′W, distributed as *D. alpina*. *Draba Macounii* is new to the flora of Yukon, but was recently reported from mountains of the Mackenzie District (Cody and Porsild 1968).

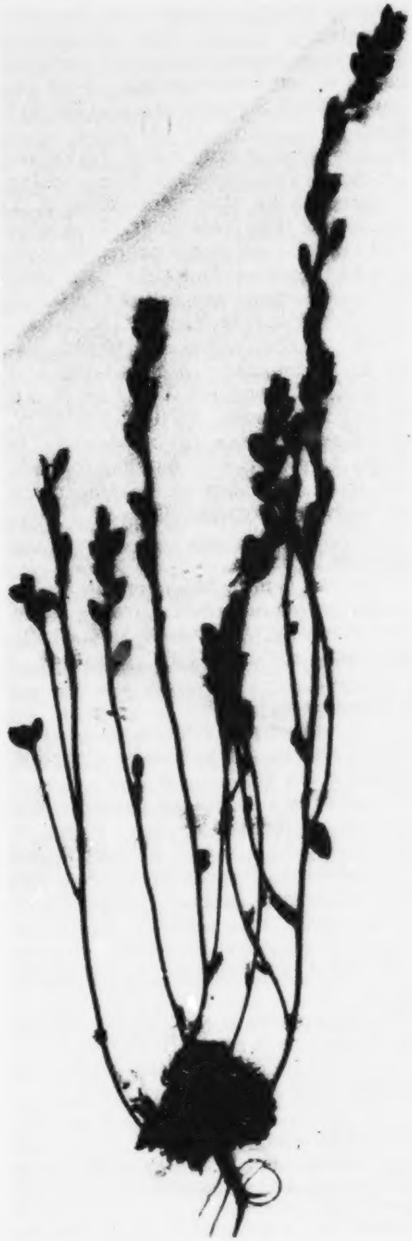
Draba nivalis Liljebl.
Common in the Ogilvie Mountains in alpine tundra and on gravelly river terraces along Dempster Highway, Miles 44–69, Nos. 40, 42, 382, 464, 1443, 1577, and 1598.

Draba oligosperma Hook.
Mount Gray northeast of Whitehorse on limestone cliffs and in alpine tundra, elevation 3,500–5,000 ft, No. 1336.

This number is a single but exceptionally large specimen, measuring about 40 cm in diameter, rising from a central taproot, the crown of which is repeatedly divided into hundreds of densely massed flowering and fruiting branches that average 15 cm in length, each bearing from 5–10 ovate siliques, on peduncles 2 to 3 times the length of the silique.

Draba oligosperma is now known from a number of stations in southern Yukon, all on calcareous rocks. For its general range, see Porsild 1966: map 79.

Draba Palanderiana Kjellm.
D. caesia sensu Hult., Fl. Alaska & Yukon 5:849 (1945) *non* Adams (see Porsild 1966:35, map 80).
Stewart Plateau: Mount Haldane, rocky ledges on the north face, elevation 4,000 ft, No. 562; on south face, on open gravel-slide, elevation 5,500 ft, No. 669. Ogilvie Mountains:



Draba yukonensis n. sp. (Type)
Approximately natural size

On rock exposure on mountain east of Dempster Highway, Miles 50–54, elevation 5,000 ft, No. 145; in herbmats on north side of mountain ridge east of Miles 57–58, No. 382; Mount Nansen, 62°06′N, 137°17′W, common on dry ridges, No. 1369. Also on Mount Sedgwick, 68°58′N, 139°01′W, A.M. Pearson, No. 70-22B.

In life the petals of *D. Palanderiana* are creamy white at first, and only the claws are yellow, but as the season advances, the petals turn a deeper yellow that increases in density when drying, whereas in the morphologically similar *D. nivalis* the petals are milky white and do not darken when drying.

In *D. Palanderiana* the siliques are lanceolate and about twice as long as broad; in *D. nivalis* they are narrower and 4–5 times longer than broad.

Draba sibirica L.
D. ogilviensis Hult., Bot. Notis. 119 (2):315 (1966).
Ogilvie Mountains: Dempster Highway, Miles 40–46, No. 1460; mountain east of Mile 50, Nos. 9, 62, 141, 167, 463, 1460, and 1580. Very common in herbmats and in moist, open willow thickets of the valley, ascending to 6,500 ft; flowering and fruiting abundantly; often associated with *D. longipes*.

The first report of *D. sibirica* from North America (Porsild 1964*a*) was based on flowering fragments found among other plants regularly "harvested" by the collared lemming in the Ogilvie Mountains, and were brought to me for identification in 1963 by Messrs. P.M. Youngman and G. Tessier of the National Museum of Canada. With an abundant and well-preserved series of the Yukon plant before me, as well as with the large series reported from the central Mackenzie Mountains, Northwest Territories (Cody and Porsild 1968), I compared these with other specimens of *D. sibirica* representative of its peculiarly discontinuous range from central East Greenland, the Ural Mountains, Waigatsch Island, and the adjacent mainland of arctic Russia, including the west Caucasus Mountains, the lower Lena River of eastern Siberia, the Chukotsk Peninsula, and East Cape (Porsild 1967). The variations observed proved no greater than those noted in *D. sibirica* obtained at different elevations and exposures between elevation 3,800–6,500 ft on a single mountain in the Ogilvie Mountains. * *D. ogilviensis* Hult., proposed for the Yukon plant, is therefore superfluous and must be rejected.

***Draba yukonensis* n. sp.**
Herba parva hibernanti-biennis. Caules filiformes, simplices vel ramosi, fructifer usque ad 18–20 cm alti, 1-3-phylli, pilis patentibus plerisque floccoso-stellatis vestitis. Folia basalia rosulata, lanceolata, acuta, integra, 8–10 mm longa, nervo medio ad basin manifeste, utrinque pilis rigidis, simplices vel rarius bi- vel trifurcatis vestitis; folia caulinaria 1–3, ovata, 5–8 mm longa, sessilia. Racemus floriger non vidi, fructifer jam initio laxiusculus, dein valde elongatus et laxus, 5-20-florus. Pedicelli 1–3 mm longi. Siliquae teretiusculae, erectopatentes, 3–5 mm longae, 2 mm latae, nunquam compressae. Valvae cum pilis brevissimis furcatis sive stellatis hirtae. Stylus 0.3–0.4 mm longus coronatus. Semina ellipsoidea brunnea, 0.8 mm longa.

Southwestern Yukon: Vicinity of Mackintosh, Mile 1022 of the Alaska Highway, in dry area among grasses, 29 June 1957, W.B. Schofield and H.A. Crum, fruiting specimens, No. 7319 (Type: CAN), Plate 7; approximately in the same place (approximate latitude 60° 47′N, and longitude 137°38′W) on open stony ridges on ancient beach, H.M. and L.G. Raup, No. 11,938, 26 June 1944.

By its biennial habit, by its tiny basal rosettes of leaves covered on both sides by predominantly simple, relatively long and rather stiff hairs, by its erect, slender, simple or branched, elongating fruiting stems, bearing 1–3 tiny, sessile leaves, by its tiny, short-pedicelled, terete siliques covered by short, soft stellate hairs, and by its very short style, *Draba yukonensis* differs markedly from *Draba praealta* Greene, as well as from other members of section *Leucodraba*. In both collections cited, mature seeds are present; at the base of some of the lowermost siliques, wilted but distinctly white petals still adhere.

Erysimum Pallassii (Pursh) Fern.
Ogilvie Mountains: Dempster Highway near Miles 44–46, elevation 4,200 ft, on gravel terraces above floodplain, No. 1439; Mile 55, No. 55, with almost mature fruits on 25 June 1966, n = 14 (Mulligan and Porsild 1969).

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* A similar conclusion was reached by Tolmatchev (1939: 446–47).

Eutrema Edwardsii R. Br.
Ogilvie Mountains: Mountain east of Dempster Highway, Mile 58, elevation 5,800 ft, No. 251. Stewart Plateau: Keno Summit, elevation 5,500–6,000 ft, Nos. 534, 775, 1021, and 1265. The specimens are all unusually robust, and in No. 1265 one last year's fruiting stem has two lateral branches; this is unique for this taxon, which normally has one simple floral axis, as confirmed by the examination of the 180-odd sheets of *Eutrema Edwardsii* in the National Herbarium of Canada.

Lesquerella Calderi Mulligan & Porsild, Can. J. Bot. 47(1):215–16, pl. 1 (1969).
Ogilvie Mountains: Slopes of limestone hills west of Dempster Highway, Mile 82, elevation 3,800 ft, No. 1095; Miles 83–85, Nos. 1509, 1556, and 1609; rocky slopes of limestone hills southwest of Dempster Highway, Mile 110, A.E. & R.T. Porsild, Nos. 23,637–38, flowering and fruiting specimens on 10–11 July 1970; same place, on moist, calcareous floodplain-tundra, *iidem*, No. 23,639. The type of *L. Calderi* came from the Ogilvie Mountains, 66°02′N, 138°44′W, Calder & Gillet, No. 26,016 (DAO). *L. Calderi* differs from the rather similar *L. arctica* by consistently longer and broader petals and larger siliques; *L. arctica* is dodecaploid, whereas *L. Calderi* is tetraploid, both with the base number $\times = 5$ (Mulligan and Porsild 1970).

Rorippa barbareaefolia (DC.) Kitag.
Ogilvie Mountains: Dempster Highway, Miles 96–98, in rich meadows along the Blackstone River, No. 1722, with mature seeds on 30 July 1968, $2n = 16$ (Mulligan and Porsild 1969).

An amphi-Beringian species of spotty and rather local range, suggesting distribution by man (Porsild 1939:233). Until now, known in Canada only from the Dawson area and mainly in places disturbed by placer mining. *R. barbareaefolia* differs from the somewhat similar *R. palustris* by its pear-shaped siliques, opening by four rather than two valves.

Smelowskia borealis (Greene) Drury & Rollins
Ogilvie Mountains: Very sparse and local in slide-rock on the face of limestone mountain southwest of Dempster Highway near Mile 110; the specimen consists of this year's rosettes and last season's elongated inflorescence, A.E. & R.T. Porsild, No. 23,636. The above station is approximately 100 miles southeast of the type locality at Runt Creek on the Alaska–Yukon boundary, latitude 66° 10′N.

Smelowskia calycina (Steph.) C.A. Mey. var. ***media*** Rollins & Drury
Mount Sedgwick, approximately 68°58′N, 139°01′W, on dry slope at top of ridge, A.M. Pearson, No. 70-27D. Until now, this variety was known only from the east end of the Brooks Range, Alaska, and from the east slope of the Richardson and Mackenzie mountains, but it had not been reported from Yukon Territory.

Smelowskia calycina (Steph.) C.A. Mey. var. ***Porsildii*** Drury & Rollins, Rhodora 54:105 (1952).
S. Porsildii (Drury & Rollins) Yurtsev, Not. Syst. Rast. 6:309 (1970).
Ogilvie Mountains: On slide-rock on mountain east of Dempster Highway, Miles 57–58, elevation 6,000 ft, Nos. 255 and 383. The var. *Porsildii* is distinguished from other varieties of *S. calycina* by the blade of its basal leaves being entire or sometimes with 2–3 shallow apical notches, linear to narrowly spatulate in outline and shorter than its slender petiole.

Thus far, the variety is known only from a few stations in the Brooks Range of northern Alaska and from the type locality in the Kokrines Hills, 65°20′N, 154°30′W, A.E. & R.T. Porsild, No. 741. The Ogilvie stations listed above are the first for Canada.

DROSERACEAE

Drosera anglica Huds.
Stewart Plateau: Halfway Lakes north of Mayo, in bogs, Nos. 500, [illegible]41, 863, 1219, and 1254; McQuesten River valley west of Elsa, No. 1165. Common locally in wet bogs near Mayo. In Yukon otherwise known from a single collection from the base of Mount Sheldon in eastern Yukon (Porsild 1951*a*).

Drosera rotundifolia L.
Stewart Plateau: Vicinity of Halfway Lakes north of Mayo, in a bog, No. 864; near Minto Bridge, on floating quagmire, No. 541. In Yukon otherwise known from two stations along the Canol Road and from the Dawson district (Porsild 1951a).

SAXIFRAGACEAE

Boykinia Richardsonii (Hook.) Gray
Saxifraga Richardsonii Hook., Fl. Bor.-Am. 1:247 (1832).
Mount Sedgwick, 68°58′N, 139°01′W, in moist places by alpine brook, A.M. Pearson, No. 70-23.

Hooker (1832:247), on Richardson's authority, gave the range of his new and strikingly handsome species as "Arctic Seashore between Mackenzie and Coppermine Rivers". With our present knowledge of the range of this very conspicuous and distinctly alpine species, the above statement certainly is puzzling. At any rate, I and all subsequent collectors have looked in vain for *Boykinia Richardsonii* along the Arctic Coast as well as inland, east of the Mackenzie River. I can only assume that Richardson's statement, as quoted by Hooker, is in error, and that the specimens seen by Hooker were actually collected on the Arctic Coast of Yukon or northern Alaska by members of the Franklin Expeditions Western party travelling by boat west to Point Barrow, and that the specimens later got mixed up with Richardson's plant collections from east of the Mackenzie River.

Boykinia Richardsonii, endemic in Alaska and northwestern Yukon, is apparently not uncommon in mountains of northern, central, and western Alaska, where it is restricted to alpine herbmats with ample snow cover in winter. It has been collected a few times in mountains of northern and central Yukon, and it will likely also turn up on the east slope of the Richardson Mountains.

Chrysosplenium Wrightii Franch. & Sav.
Ogilvie Mountains: Mountain east of Dempster Highway, Miles 50–54, in shaded ravine between rocks, elevation 5,500–5,800 ft, Nos. 148, 469, and 1568. In Yukon otherwise known from Kluane Lake and Donjek River. A chromosome count of 2n = 24 was obtained from No. 469 (Mulligan and Porsild 1969); also reported recently from a number of stations on the east slope of the Richardson Mountains, Mackenzie District (Cody and Porsild 1968).

Ribes glandulosum Grauer
Stewart Plateau: Minto Bridge, edge of spruce woods, with mature fruits on 17 July 1967, No. 875; vicinity of Halfway Lakes north of Mayo, No. 1217, the latter with sprawling stems freely rooting from the nodes. An eastern boreal forest species, in Yukon otherwise known from a few stations along the Canol Road (Porsild 1951*a*).

Ribes hudsonianum Richards.
Vicinity of Mayo, 63°35′N, 135°55′W, wooded riverbanks, No. 472. Ogilvie Mountains: In willow thickets west of Dempster Highway, Mile 95, No. 1740. The last is a slight extension of the known northern limit for Yukon.

Ribes triste Pall.
Ogilvie Mountains: Base of rock scree, Dempster Highway, Mile 86, No. 1638. An extension of the known northern limit for Yukon.

Saxifraga adscendens L. ssp. ***oregonensis*** (Raf.) Bacigalupi
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, on wet gravel, No. 220, n = 11 (Mulligan and Porsild 1969). See also Porsild 1966: map 87.

Saxifraga aizoides L.
Ogilvie Mountains: Calcareous river flats along Dempster Highway, Miles 81–85, Nos. 1555 and 1601, the latter with flowers and young fruits on 18 July 1968; in calcareous gravel by cold brook west of Mile 110, A.E. & R.T. Porsild, No. 23,642. A pronounced calcicole. The collections represent a slight extension of the known western limit of this amphi-Atlantic species, only recently reported from Yukon (Porsild 1951*a*).

Saxifraga caespitosa L. ssp. ***monticola*** (Small) Porsild
Ogilvie Mountains: Rocky ledges, elevation 5,500–5,800 ft, on mountain east of Dempster Highway, Miles 50–54, Nos. 182, 472, and 1570; mountain east of Miles 57–58, No. 410; limestone hills west of Mile 82, elevation 5,200 ft, No. 1094.

A well-marked eastern cordilleran race that extends, mainly on calcareous mountains, from the Mackenzie and Richardson mountains to southwestern and central Yukon. West of the 141st meridian known from a single collection from "Gunsight Mountain", Mile 120, on Glenn Highway, approximately 61°51′N, 147°31′W, L. Spetzman, No. 4373. See also Porsild 1966:39–40; pl. 6B; map 88, on which the stations cited above should be shown.

Saxifraga davurica Willd. ssp. ***grandipetala*** (Engler & Irmsch.) Hult.
Ogilvie Mountains: Mountain east of Dempster Highway, Miles 50–58, elevation 5,500–6,000 ft, Nos. 184, 385, and 467; river flats along Miles 51–52, No. 205; damp, rocky places on mountain east of Mile 51, No. 1573; Stewart Plateau, Keno Summit, in damp alpine tundra, elevation 6,000 ft, Nos. 513, 725, and 1261 (Porsild 1966: map 89).

Saxifraga flagellaris Willd. ssp. ***flagellaris***
Ogilvie Mountains: River flat along Dempster Highway, Miles 51–52, Nos. 122 and 212; mountain east of Miles 50–54, elevation 6,000 ft, No. 25 (Porsild 1954, 1966).

Saxifraga hieracifolia Waldst. & Kit.
Ogilvie Mountains: Moist alpine tundra and herbmats on mountain east of Dempster Highway, Miles 50–54, Nos. 27, 89, and 480; on gravel ridge along river near Miles 57–58, No. 300; Mile 67, No. 1807; in damp river meadows near Miles 82–86, Nos. 1118 and 1657, the latter with stout flowering scapes 6 dm tall. Stewart Plateau: Keno Hill, 63°58′N, 135°40′W, alpine tundra, elevation about 6,000 ft, Nos. 518 and 996. Common in turfy places of alpine tundra.

Saxifraga Hirculus L.
Ogilvie Mountains: Common in calcareous tundra and herbmats, along Dempster Highway, Miles 51–58, Nos. 132, 213, and 488; Mile 67, in mossy bog on river flat, No. 1803; Mile 83, by seepage in open woods, No. 1613; Mile 110, wet, calcareous bog, A.E. & R.T. Porsild, No. 23,642. Stewart Plateau: Keno Hill, in herbmats near summit, elevation 5,500–6,000 ft, Nos. 533, 709, and 956. The specimens are best placed with the arctic and circumpolar var. *propinqua* (R. Br.) Simm., although in some the petals are up to 15 mm long; in No. 1613 the slender flowering stems are over 2 dm tall, with 7–9 sessile cauline leaves. Very common in damp, mossy bogs and in damp, alpine herbmats.

Saxifraga punctata L. ssp. ***Nelsoniana*** (D. Don) Hult.
Ogilvie Mountains: In wet gravel by alpine seepage, along Dempster Highway, Miles 44–46, elevation 4,200 ft, No. 1446; mountain east of Miles 50–54, in alpine herbmats, elevation 3,800 ft, No. 95; same mountain, elevation 5,000 ft, No. 28; Mile 86, on rocky ledges of a canyon, No. 1636. A chromosome count of 2n = ca. 84 was obtained from *S. punctata* L., No. 95 (Mulligan and Porsild 1969).

The range of ssp. *Nelsoniana* is amphi-Beringian, extending along the North Slope of Alaska and Yukon, east only to the eastern slope of the Richardson Mountains, west of the Mackenzie Delta and south across northern Yukon to the Ogilvie Mountains, where it meets and slightly overlaps that of ssp. *Porsildii*. Subspecies *Porsildii* is apparently an inland or continental race, consisting of two discrete populations of which the western is confined to the Mackenzie Mountains and the Stewart Plateau of central Yukon, and the eastern to the northeastern Mackenzie and western Keewatin districts. The two populations are separated by a forested gap nearly 1,000 miles wide.

Saxifraga punctata L. ssp. ***Porsildii*** Calder & Savile
Mount Haldane, 63°51′N, 135°50′W, elevation 4,300 ft, in gravel by a creek, No. 538; in mossy openings under spruce, elevation 3,500 ft, No. 622; Keno Hill, 63°58′N, 135°42′W, wet spots in rich herbmat slope, elevation 4,500–5,500 ft, Nos. 745 and 965; on rock ledges, elevation 5,500–6,000 ft, No. 1225. Ogilvie Mountains: Wet rocky ledges in canyon along Dempster Highway, Mile 47, No. 1850; on snowbed slope, No. 1853; on river flats along Dempster Highway, Mile 56, No. 192.

The ssp. *Porsildii* is distinguished by its lower stature, essentially glabrous leaves, purplish peduncles, sepals, and follicles, and by its terminal flower often, if not always, 3- or even 5-follicled. Its range, as shown above, is remarkably disjunct from that of ssp. *Nelsoniana*.

Saxifraga radiata Small
Stewart Plateau: Mount Haldane, 63°51′N, 135°50′W, elevation 4,300 ft, in wet moss by alpine creek, No. 602; Keno Hill, 63°58′N, 135°42′W, herbmat slopes and ledges between elevation 4,500 and 6,000 ft, Nos. 744, 1025, 1224, and 1280. A chromosome count of n = 13 was obtained for No. 1224 (Mulligan and Porsild 1969). Ogilvie Mountains: river flats and moist rocky ledges along Dempster Highway, Miles 44–63, Nos. 43, 191, 215, 1438, and 1843. Apparently quite common locally in moist alpine herbmats from the central Yukon Plateau northwards to the Arctic Coast.

Saxifraga reflexa Hook.
Stewart Plateau: Mount Haldane, 63°51′N, 135°50′W, on gravelly slope, elevation 5,500 ft, No. 582; Keno Hill, 63°58′N, 135°46′W, on rocky ledge near summit, elevation 5,500 ft, No. 1269. Ogilvie Mountains: Dempster Highway, rocky slopes of mountain east of Miles 50–54, Nos. 20 and 93; mountain ridge east of Miles 57–58, No. 388; river flat near Mile 67, No. 1804; rocky ledges near Mile 86, No. 1647. Not uncommon on dry alpine slopes and river flats.

Saxifraga rivularis L. var. **flexuosa** Engler & Irmsch.
Stewart Plateau: Keno Hill, common above timberline in wet, gravelly places and on rocky ledges to elevation 6,065 ft, Nos. 529, 766, 1257, and 1258. A chromosome count from Nos. 1257 and 1258 gave n = 13 (Mulligan and Porsild 1969). Ogilvie Mountains: damp, rocky ledges near Mile 47 on Dempster Highway, No. 1849, in wet gravel by cold spring, near Mile 58, No. 496.

As noted by Hultén (1944), typical *S. rivularis* in Alaska and Yukon are largely restricted to the Arctic Coast, whereas in the interior most *S. rivularis* belong with the taller and more slender var. *flexuosa*, in which the flowers are smaller, the lowermost on long and strictly erect peduncles.

Saxifraga rufopilosa (Hult.) **n. stat.**
S. nivalis var. *rufopilosa* Hult., Ark. Bot. ser. 2, vol. 7 (1): 69 (1967).
S. (?) *eriophora* Porsild, Can. Field-Natur. 79 (2): 82 (1965) *non S. eriophora* S. Wats.
An examination of the type of *S. nivalis* var. *rufopilosa* Hult. found on Steese Highway, mountain west of Mastodon Dome (central Alaska, approximately 65°35′N, 145°00′W), 25–26 July 1964, E. Hultén (S), and the large series listed below, but not seen by Hultén, suggests that this taxon, although undoubtedly distinct, is in several characters more closely related to *S. tenuis* (Wahlenb.) Sm. than to *S. nivalis* L.

In the flowering state *S. rufopilosa* superficially resembles *S. tenuis* by its subcapitate inflorescence, but as the fruits mature, its flowering axes and their branches elongate, so that the inflorescence becomes racemose-paniculate (see Plate 8), and from 4 to 6 cm long, but never corymbose as in *S. tenuis*, *S. rufidula* J.M. Macoun, or *S. eriophora* S. Wats.

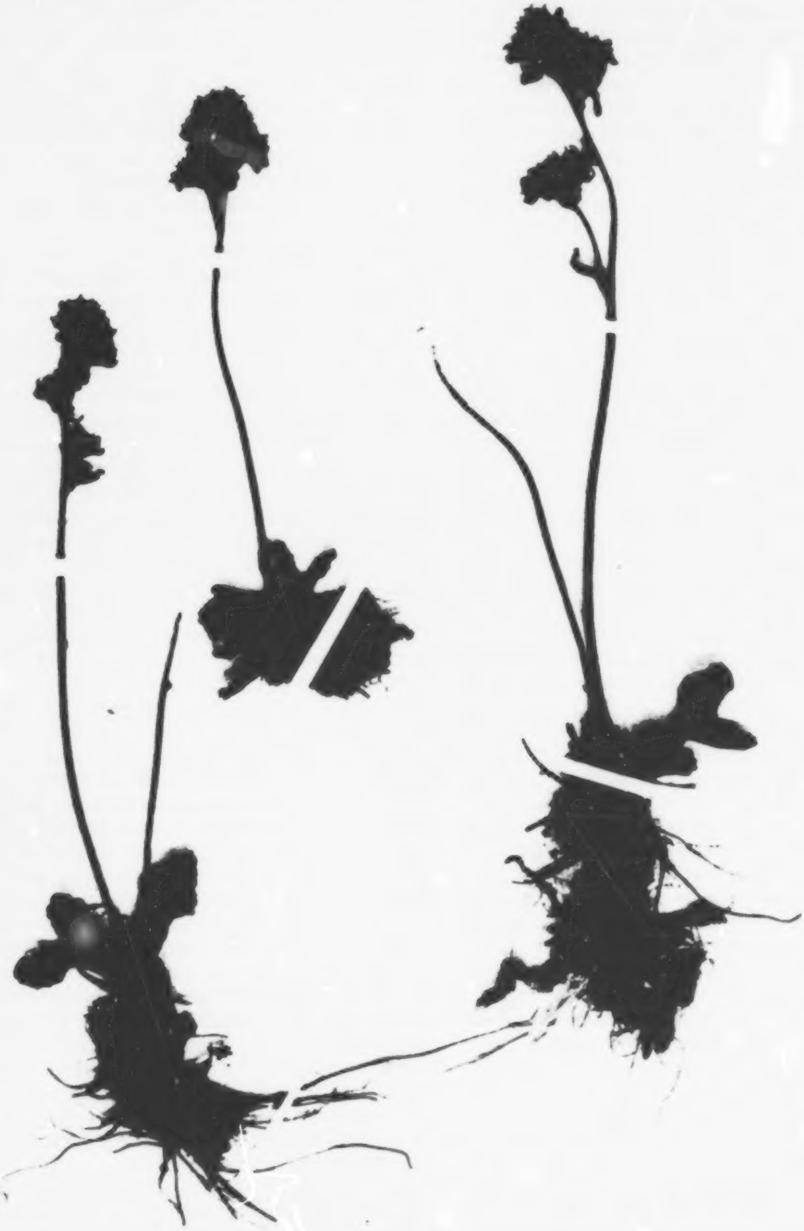
In all parts *S. rufopilosa* is a smaller and more delicate plant than *S. nivalis* in which, moreover, the petals are always white and the mature capsules average 6 mm in length; whereas in *S. rufopilosa* the petals are pink or pale purplish, and the capsules about 3 mm long. In *S. rufopilosa* as well as in *S. tenuis*, the underside of the leaves is loosely matted by long, crinkly, rust-coloured hairs, whereas in *S. nivalis* some rust-coloured hairs may be present on the upper as well as the lower leaf-surface.

S. rufopilosa appears to be endemic in unglaciated alpine parts of central Alaska and southern and central Yukon Territory.

Alaska: Eagle Creek, near Eagle Summit on the Steese Highway, Mile 105, 65°22′N, 145°20′W, elevation 3,500–4,000 ft, on north-facing rock stripes and talus, 30 July and 7 Aug. 1963, Robert W. Weeden, fruiting specimens, No. 283,877 (Plate 9); same place, 28 June 1966, *idem*, No. 303,792; Canada: Mountain slopes northeast of Ptarmigan Heart, approximately 61°49′N, 138°35′W, 16 July 1948, H.M. Raup, W.H. Drury, and K.A. Raup, No. 13,740; St. Elias Mountains, Bear Creek near Mount Archibald, Mile 1028, Alaska Highway, elevation 4,150 ft, A.M. Pearson, No. 1967-297A; Dawson Range, 62°35′N, 138°20′W, 27 June 1941, Hugh Bostock, No. 256. The numbers that follow were collected by R.T. Porsild. Mount Nansen, 40 miles west of Carmacks, 62°06′N, 137°17′W, on moist spots in alpine tundra, 16–17 June 1968, No. 1372. Ogilvie Mountains: "Sheep Mountain" east of Dempster Highway, Miles 50–54, elevation 4,500–5,000 ft, in alpine herbmats, No. 32, Plate 8, flowering specimens on 24 June 1966; same place, in damp, gravelly places near summit, elevation 6,500 ft, with flowers and young fruits on 7 July 1968, No. 1574.

Saxifraga serphyllifolia Pursh
Stewart Plateau: Keno Summit, in half shade on mossy rock ledges, elevation 6,000 ft, Nos. 527, 773, and 1076. Ogilvie Mountains: Summit of mountain east of Miles 50–54, on Dempster Highway, elevation 6,500 ft, Nos. 176, 461, and 1575; mountain east of Miles 57–58, No. 381 (Porsild 1966: map 91).

Plate 8



Saxifraga rufopilosa (Hult.) n. stat. Flowering specimens.
Approximately 1⅓ natural size

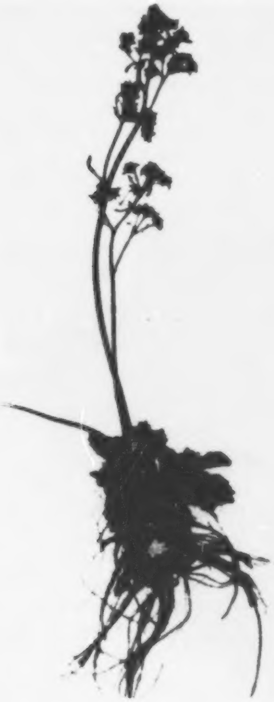


Plate 9
Saxifraga rufopilosa (Hult.) n. stat.
Fruiting specimen
Approximately ½ natural size

ROSACEAE

Amelanchier alnifolia (Nutt.) Nutt.
Vicinity of Mayo, 63°35′N, 135°45′W, where it appears to be restricted to river terraces; No. 462, flowering on 7 June 1967, and No. 1178 with fully ripened fruits on 10 Aug. Throughout its Yukon–Alaska range, restricted to the main river systems.

Chamaerhodos erecta (L.) Bunge ssp.
Nuttallii (T. & G.) Hult.
Stewart Plateau: Vicinity of Mayo, on gravelly river terrace, Nos. 464 and 553; flowering specimens 28 cm tall on 7 and 22 June 1967, fruiting on 7 Aug. 1967, No. 1307, 2n = 14 (Mulligan and Porsild 1969). A western plains and foothill species, reaching southwestern and central Yukon. The present collection extends its known northward range by about 100 miles.

Dryas alaskensis Porsild *
On mountain east of Miles 57–58 on Dempster Highway, ascending to 6,000 ft, where still flowering on 31 July 1966, No. 393; Mile 110, stony floodplain below limestone hill, A.E. & R.T. Porsild, No. 23,649; Richardson Mountains, 17 miles northeast of Lapierre House, approximately 67°43′N, 136°20′W, Youngman & Tessier, No. 595. The last is a new northern limit for this species in Yukon.

Dryas alaskensis is perhaps the most common member of the genus in central Yukon, particularly abundant on gravelly floodplains and slopes rich in lime.

Dryas crenulata Juz.
Mount Gray northeast of Whitehorse, common on limestone cliffs and in alpine tundra between 3,500 and 5,000 ft elevation, Nos. 1334 and 1349. Ogilvie Mountains: In rich herbmat slopes along Dempster Highway, Mile 84, No. 1679, with fully ripened achenes on 26 July 1968, 2n = 18 (Mulligan and Porsild 1970). See also Porsild 1966.

Dryas integrifolia M. Vahl
Ogilvie Mountains: Limestone hills west of Dempster Highway, Mile 110, elevation 2,500 ft, A.E. & R.T. Porsild, No. 23,645. Apparently rare in the interior of Yukon and central Alaska, where it is restricted to alpine situations.

Dryas octopetala L. *s. str.*
Mount Nansen, 62°06′N, 137°17′W, in alpine lichen heath, No. 1366; summit of Coldspring Mountain, 63°02′N, 137°13′W, J.D. Campbell, No. 125. See Porsild 1966 for stations in southwestern Yukon.

Dryas punctata Juz.
Ogilvie Mountains: Limestone mountain west of Dempster Highway, Mile 110, A.E. & R.T. Porsild, No. 23,648; Bonnet Plume Lake, 64°20′N, 132°00′W, W.H. Butler & N. Olsen, No. 57. The Ogilvie station bridges a gap in the known Yukon range of this taxon between southeastern Yukon and the Arctic Coast.

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* For a monographic treatment of the North American members of the genus *Dryas*, see Porsild 1947. Hultén's somewhat different treatment (1968: 629) is influenced by "the fact that hybrid swarms seemingly are formed between all taxa—with the exception of *D. Drummondii*, which is distinct."

Plate 10

Potentilla Ledebouriana Porsild
Approximately ¾ natural size

Dryas sylvatica (Hult.) Porsild
Ogilvie Mountains: River flats along Dempster Highway, Mile 56, No. 54; in alpine tundra, elevation 5,000 ft, Miles 54–55, No. 1830; a dominant species on sparsely wooded limestone gravel-terraces near Mile 83, No. 1517; limestone hills west of Mile 110, A.E. & R.T. Porsild, Nos. 23,646–47; McQuesten area, lower forks of Vancouver Creek, J.D. Campbell, No. 590; Parker Creek, *Idem,* No. 782.

Geum glaciale Adams
Mount Sedgwick, approximately 68°58′N, 139°01′W, in moist area along creek, flowering 5 July 1970, A.M. Pearson, No. 70-26B. The collection bridges a gap between the Richardson Mountains west of the Mackenzie River and the eastern Brooks Range of Alaska.

Geum macrophyllum Willd. ssp. ***perincisum*** (Rydb.) Hult.
Vicinity of Mayo, 63°35′N, 135°45′W, on gravelly river terrace, No. 688; in open woods along river, No. 789. Ogilvie Mountains: Dempster Highway, Miles 96–98, in rich floodplain meadow, No. 1721. The last station is a new northern limit for this taxon in Yukon.

Geum Rossii (R. Br.) Ser.
Stewart Plateau: Mount Haldane, rocky slope, elevation 4,000 ft, flowering on 23 June 1967, No. 566. Keno Hill: in alpine herbmats, elevation 5,000 ft, Nos. 535, 994, and 1259; and in open heath on summit, elevation 6,000 ft, No. 1259, 2n = 70 (Mulligan and Porsild 1969). Ogilvie Mountains: River flats along Dempster Highway, Mile 52, flowering specimens 45 cm tall on 25 June, with last year's fruiting axis, No. 58; mountains east of Miles 57–58, elevation 6,000 ft, No. 403. "Sam Lake" in the British Mountains, approximately 68°30′N, 138°05′W, elevation 2,500 ft, A.M. Pearson, No. 70-21. The last is the northernmost station known for this species in Yukon. See Porsild 1966 for general distribution.

Potentilla biflora Willd.
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, elevation 2,500 ft, No. 350; mountain east of Miles 50–54, elevation 5,500–6,500 ft, Nos. 142, 185, 468, and 1838 (Porsild 1966: map 95); Mount Sedgwick, approximately 68°58′N, 139°01′W, flowering on 5 July 1970, A.M. Pearson, No. 70-25A.

Potentilla hyparctica Malte
Ogilvie Mountains: Mountain east of Dempster Highway, Miles 57–58, on shady cliffs of north-facing slopes, No. 394; alpine rock ledges of mountain east of Mile 51, No. 1572 (Porsild 1966).

Potentilla Ledebouriana Porsild
P. Vahliana sensu Hult., Fl. Alaska & Neighboring Territories. 612 (1968) *non* Lehm.
Stewart Plateau: Keno Summit, 63°58′N, 135°42′W, gravelly ledge, elevation 6,000 ft, No. 718; Mount Haldane, 63°51′N, 135°50′W, rock scree, elevation 4,000 ft, No. 567; Galena Hill, 63°53′N, 135°24′W, on rocky ledge, No. 1212. Ogilvie Mountains: Mountain east of Miles 50–54 on Dempster Highway, dry rocky ledges, elevation 5,000 ft, No. 144; river terraces near Mile 57, elevation 2,400 ft, No. 139; gravelly ridges near Mile 74, No. 1821, 2n = 28 (Mulligan and Porsild 1970). The plants listed above are typical of the area under consideration.

More condensed plants were found in exposed situations. Stewart Plateau: Keno Summit, elevation 6,000 ft, exposed rocky places, No. 1266, 2n = 28 (Mulligan and Porsild 1969); on gravel scree, elevation 5,500 ft, No. 730; Mount Haldane, alpine gravel slope, elevation 5,500 ft, No. 682. Ogilvie Mountains: Dempster Highway, mountain east of Miles 50–54, elevation 5,000 ft, No. 38; limestone hills west of Mile 82, elevation 5,200 ft, on rock tower, No. 1093 (Plate 10).

In my work (Porsild 1955: 152–55, pl. 21) I have endeavoured to show that true *P. Vahliana* Lehm., described from West Greenland, are endemic in West Greenland, the Canadian Arctic Archipelago, the Arctic Coast westward to longitude 130°W, the northern Hudson Bay region, and northern Keewatin, in contrast to *P. Ledebouriana,* which is a western species, distributed from eastern Siberia along mountain ranges in Alaska and the Yukon eastward to the Richardson Mountains west of the Mackenzie Delta, and south in the Rocky Mountains to Oregon and Colorado. I further noted that in exposed and high-alpine situations in the Yukon and Alaska, dwarfed and condensed forms of *P. Ledebouriana* undeniably may resemble *P. Vahliana.* However, on phytogeographical grounds alone, it seems very doubtful that true *P. Vahliana* should occur in North America west of the Mackenzie River valley, as maintained by Hultén (1946, 1967, 1968).

To test the hypothesis of condensed growth forms in an area where *P. Vahliana* definitely does not occur, I studied *P. Ledebouriana* in the Canadian Rocky Mountains, and thereby confirmed that here, also, condensed growth form is directly related to exposure. I illustrated four plants (Porsild 1955: pl. 21) collected on the same mountain in Banff National Park, Alberta, approximately at the same elevation, but in different situations in regard to snow cover and exposure to wind. The centre plant (Porsild 1955: Pl. 21, fig. 3) is one of many cylindrical branches of a large, hemispherical cushion; the lower part of the branch is covered by the persistent leaf bases blackened by age and moisture. The remaining three specimens illustrated are parts of plants of less exposed habitats; in these the caudices are short, and the old leaf-sheaths have remained reddish brown and, as might be expected, the white, silky pubescence of the leaves is less dense than in the plants from exposed situations.

An even more extreme example of condensed *P. Ledebouriana* is shown in Plate 10. In life this dense and compact cushion consisted of a large number of branches, each terminated by a fascicle of leaves, some barely 1 cm long, and the strongest branches terminated by a solitary flower on a peduncle 3 cm long.

The abundant material of *P. Ledebouriana* collected in the Ogilvie Mountains by R.T. Porsild between 1966 and 1968 shows that condensed plants, resembling *P. Vahliana* in habit, occur there on exposed ridges, whereas taller plants of more matted growth are found in more sheltered situations, especially those that are assured ample snow cover in winter. Chromosome counts from Yukon plants representing both life-forms gave 2n=28 (Mulligan and Porsild 1969). For *P. Vahliana* from West Greenland, Jørgensen Sørensen, and Westergaard (1958) reported 2n=42, and Dansereau and Steiner (1956) reported 2n=48 and 2n=56 for plants from Baffin Island.

Potentilla nivea L. ssp. ***Hookeriana*** (Lehm.) Hiit.
Vicinity of Mayo, 63°35′N, 135°45′W, on gravelly river terraces, Nos. 442 and 493.

Potentilla nivea L. ssp. ***nivea***
Ogilvie Mountains: Dry limestone ledges along Dempster Highway, Mile 86, No. 1658.

Potentilla pennsylvanica L. var. ***strigosa*** Pursh
Stewart Plateau: Vicinity of Mayo, on gravelly river terraces, Nos. 458, 523, and 658. A grassland and foothill species, in the northwest confined to the major interior river valleys.

Sibbaldia procumbens L.
Ogilvie Mountains: Canyon Creek near Mile 48, on Dempster Highway, Nos. 448 and 1841; mountains east of Miles 50–54, No. 87. A chromosome count of 2n=14 (unpublished), which agrees with the number reported from Greenland (Böcher, Holmen, and Jakobsen 1968), was obtained from No. 1841. Stewart Plateau: Mount Haldane, gravelly snowbed areas in cirque, elevation 5,500 ft, No. 583; Keno Hill, in herbmats bordering snowbeds, elevation 5,500–6,000 ft, Nos. 983 and 1040. In Yukon otherwise known from mountains along the Canol Road (Porsild 1951a) and from south of Kluane Lake.

LEGUMINOSAE

Astragalus aboriginorum Richards.
Ogilvie Mountains: West slope of mountains east of Dempster Highway, Miles 50–57, No. 83, flowering on 23 June 1966, and Nos. 246 and 392 with fully formed pods on 20 and 31 July 1966. The last two numbers represent a slight northward extension of the known range of the species in Yukon.

Astragalus alpinus L.
South branch of McQuesten River along east slope of Mount Haldane, No. 1204, 2n=32 (Mulligan and Porsild 1969); vicinity of Minto Bridge, 63°41′N, 135°51′W, common on river meadows, No. 649. Ogilvie Mountains: Common along the Dempster Highway north to at least Mile 81, Nos. 1463 and 1538.

Astragalus umbellatus Bunge
Stewart Plateau: Northern slope of Mount Haldane, 63°51′N, 135°50′W, elevation 4,000 ft, No. 568; on west slope below timberline, flowering on 25 June 1967, No. 617; Keno Hill, 63°58′N, 135°42′W, in rich herbmat slopes, elevation 5,500 ft, No. 776; in rich alpine tundra, elevation 6,000 ft, No. 1284. Ogilvie Mountains: River-flat meadow along Dempster Highway, Mile 57, No. 138, 2n=16 (Mulligan and Porsild 1969); in rich herbmats by Mile 83, No. 1533. Common in alpine herbmats.

Astragalus yukonis Jones
Ogilvie Mountains: On calcareous riverbanks among willows, Dempster Highway, Mile 82, No. 1126. A new northern limit for Yukon.

Hedysarum Mackenzii Richards.
Vicinity of Mayo, 63°35′N, 135°45′W, among willows, No. 1010A. Ogilvie Mountains: In alpine heath and on herbmat slopes of limestone mountains west of Miles 81–82 on Dempster Highway, Nos. 1088 and 1502; lower slopes of limestone hills north and south of Mile 110, A.E. & R.T. Porsild, Nos. 23,651–52. The last station cited bridges a gap in the known distribution of the species between Dawson and the Arctic Coast of Yukon.

Medicago falcata L.
Stewart Plateau: Vicinity of Mayo among willows near the airport, No. 1203. An apparently well-established roadside weed on 21 Aug. 1967, with flowers and almost mature seeds. The collection is the first from Yukon Territory.

Melilotus officinalis (L.) Lam.
Stewart Plateau: Vicinity of Mayo, near road to airport, No. 1175, on 10 Aug. 1967, with flowers and mature seeds. Noted in 1970 as a well-established roadside weed, spreading into nearby clearings.

Oxytropis deflexa (Pall.) DC. var. ***foliolosa*** (Hook.) Barneby
Stewart Plateau: Keno Hill, elevation 3,800 ft, No. 510. Ogilvie Mountains: Gravelly river flats along Dempster Highway, Mile 81, No. 1466. In Yukon otherwise known from the Canol Road (Porsild 1951*a*) and from south of Kluane Lake.

Oxytropis deflexa (Pall.) DC. var. ***sericea*** T. & G.
Stewart Plateau: Vicinity of Minto Bridge, 63°41′N, 135°51′W, gravelly riverbanks, No. 921; vicinity of Mayo, 63°35′N, 135°45′W, in open woods, No. 945. Ogilvie Mountains: River flats along Dempster Highway, Miles 57–58, on gravel ridge, No. 298.

Oxytropis glutinosa Porsild
Stewart Plateau: Keno Hill, elevation 5,500 ft, in gravel scree, No. 732. Ogilvie Mountains: Mountain east of Dempster Highway, Miles 50–54, elevation 5,000–6,000 ft, Nos. 33, 82, 181, 732, and 1834. A chromosome count of $2n=16$ was obtained for No. 1834 (Mulligan and Porsild 1970). See also Porsild 1966. Perhaps the most common alpine member of the genus in Yukon.

Oxytropis Huddelsonii Porsild, Nat. Mus. Can. Bull. 121: 242; Pl. 17, fig. 5 (1951).
Stewart Plateau: Keno Summit, in alpine tundra, elevation 6,000 ft, Nos. 532, 771, and 1268. No. 1268 provided a chromosome count of $2n=16$ (Mulligan and Porsild 1969), and had mature legumes on 11 Aug. 1966.

A caespitose-pulvinate dwarf species forming low, flat cushions, rarely more than 12 cm in diameter, from a strong multicipital taproot; the branches are cylindrical, their lower part densely covered by persistent, chartaceous, white stipules that are glabrous on both sides, but copiously white-ciliate along the margins. The leaves are short, 2–3 cm long, and the rachis purplish grey, its 7–9 leaflets (not 15–19 as stated by Hultén 1968: 660)* sparsely covered by stiff white hairs, their margins strongly involute and always pink. Flowers 1–2, small, dark purple, the standard about 7 mm long, calyx short-hirsute with brown hairs, its short and triangular lobes one-third as long as the tube. Legumes sessile, almost glabrous, 2.5 cm long and 0.8–0.9 cm wide, ovoid and somewhat inflated when mature, on very slender and weak purplish-grey peduncles.

In habit and by its ovoid and more or less inflated but not stipitate legumes, *O. Huddelsonii* resembles *O. podocarpa*, and some early reports of *O. podocarpa* from northern British Columbia and southwestern Yukon (Britton and Rydberg, 1901) undoubtedly were based on immature specimens of *O. Huddelsonii*. In *O. podocarpa* the legumes are broader and always distinctly stipitate within the calyx; its nearest known station is in Jasper National Park, Alberta.

O. Huddelsonii is apparently another endemic of southeastern and central Yukon and central-eastern Alaska; the type came from the Golden Horn Mountain, south of Whitehorse (Porsild 1966: 46, map 104).

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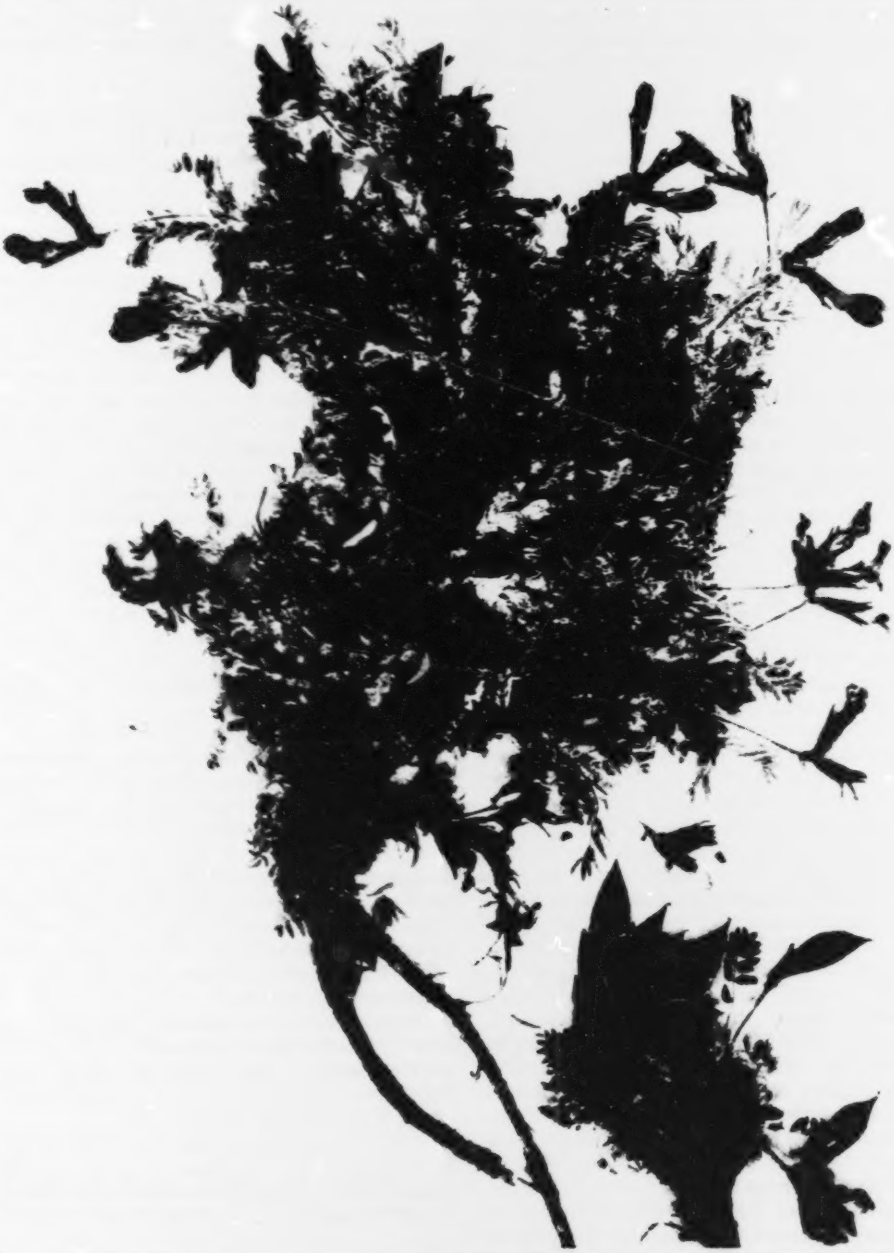
* Obviously a typographical error because the correct number is clearly shown in his illustration of *O. Huddelsonii*.



Oxytropis nigrescens (Pall.) Fisch. var. *lonchopoda* Barneby
Approximately natural size

Oxytropis Jordalii Porsild, Can. Field-Natur. 65 (2):77–78, pl. 1 (1951).
Ogilvie Mountains: Limestone hills west of Miles 81–82, on Dempster Highway, elevation 4,200 ft, where it is common in turfy, alpine tundra, flowering on 23–28 June 1968, No. 1486; with mature fruits on 4 Aug. 1967, No. 1083; stony lower slope of limestone hill south of Mile 110, flowering on 10 July 1970, A.E. & R.T. Porsild, Nos. 23,655–56; moist, stony floodplain, same place, *iidem*, No. 23,654.

Hultén (1967: 79) reduced *O. Jordalii* to a subspecies of *O. campestris*, "closely related to *O. campestris* ssp. *sordida* (Willd.) Hartm.". To me, the alleged "close" relationship to *O. sordida* Willd. or, for that matter, to any other species of *Oxytropis* is not obvious. In this view, I am supported by Gjaerevoll (1963: 79), who collected large series of *O. Jordalii* in the White Mountains of central Alaska, and who considered it "a very distinct species", not suggestive of *O. campestris* var. *varians*, as suggested by Wiggins and Thomas (1962).

Thus far, *O. Jordalii* was known only from the eastern Brooks Range of northern Alaska and from the central Mackenzie Mountains, Northwest Territories, and is therefore new to Yukon Territory.

Oxytropis Maydelliana Trautv. ssp. ***Maydelliana***
Stewart Plateau: Keno Summit, on gravel patches, elevation 6,000 ft, Nos. 523, 769, and 1065. Ogilvie Mountains: Mountain east of Dempster Highway, Mile 51, elevation 5,000 ft, No. 36; in rich alpine tundra near Mile 81, elevation 4,200 ft, No. 1500; stony lower slope of limestone hill north of Mile 110, A.E. & R.T. Porsild, No. 23,653. For a discussion of the two races of *O. Maydelliana* in North America see Porsild 1966, where *O. Maydelliana* ssp. *melanocephala* (Hook.) Porsild is proposed for the eastern race, and where map 105 shows the distinct ranges of the two races.

Oxytropis nigrescens (Pall.) Fisch. var. ***lonchopoda*** Barneby, Leafl. West. Bot. 10:23 (1963).
O. pygmaea sensu Porsild, Nat. Mus. Can. Bull. 121: 243–44 (1951); *ibid.*, 162: 47 (1966) *non* (Pall.) Fern.
Ogilvie Mountains: Mountain ridge 52 miles northeast of Dawson, elevation 5,200 ft, Youngman & Tessier, No. 355; mountains east of Miles 50–54 on Dempster Highway, elevation 5,000–6,000 ft, in herbmats and on rocky ledges, Nos. 35 and 177, flowering on 24 June 1966. *O. nigrescens* var. *lonchopoda* is otherwise known only from the type locality: Cathedral Rocks in the Ogilvie Mountains, 66°02′N, 138°44′W, J.A. Calder & J.M. Gillett, DAO, No. 9395 (Type). Also from 138 miles north of Watson Lake and 5 miles east of Little Hyland River, elevation 6,000 ft, Youngman & Tessier, No. 418; Ogilvie Mountains, Yukon Territory, approximately 65°37′N, 138°56′W, J.A. Calder and J.M. Gillett, No. 25962, DAO 116523 (Plate 11).

Oxytropis Scammaniana Hult.
Ogilvie Mountains: In alpine situations along Dempster Highway, Mile 52, flowering on 15 July 1963, Youngman & Tessier. No. 379; alpine herbmat slopes, elevation 6,000 ft, east of Miles 57–58, flowering on 31 July 1966, No. 405; Mount Nansen, 62°06′N, 137°17′W, in alpine *Dryas*-lichen heath, No. 1365.

O. Scammaniana, in common with *O. Huddelsonii*, *O. Jordalii*, and *O. sheldonensis*, were described from mountains of unglaciated central Alaska and Yukon; all except *O. Huddelsonii* have now also been reported from the Mackenzie Mountains, Northwest Territories. The type locality of *O. Scammaniana* is Eagle Summit near Circle Springs on Steese Highway. It is a very handsome species that commonly forms extensive mats in alpine *Dryas*-lichen heath. Characteristic and conspicuous are its elongated and freely branched caudices that are covered by the imbricated, glabrous, and prominently 3-nerved stipules, the uppermost with rounded, pale-green and free tips that turn straw-coloured in age. The slender leaf rachides and the flowering peduncles are characteristically purplish grey, as in *O. Huddelsonii*. Its bright-purple flowers are very showy, usually in clusters of 3; the calyx is coal-black from dense pubescence, its teeth narrowly triangular or almost linear, two-thirds as long as the tube; the subsessile legumes are densely black hirsute, rarely over 15 mm long, and, when mature, conspicuously elevated above the plant mat by elongation of the scape.

Oxytropis splendens Dougl.
Vicinity of Halfway Lakes north of Mayo, 63°48′N, 135°47′W, on high, gravelly river terraces, Nos. 527 and 657. A dry grassland and foothill species. A slight northward extension of the Yukon range for this species.

GERANIACEAE

Geranium Bicknellii Britt.
Stewart Plateau: Vicinity of Minto Bridge in a river meadow, No. 647, with flowers and well-formed fruits on 30 June 1967. In Yukon otherwise known from Dawson, Teslin Lake, and Whitehorse (Porsild 1951*a*). The sporadic occurrence of *G. Bicknellii* in the Canadian northwest strongly suggests a fairly recent introduction by man.

CALLITRICHACEAE

Callitriche hermaphroditica L.
Stewart Plateau: Crystal Lake north of Keno Hill, in shallow water, No. 1234; north branch of McQuesten River, in small lakes with *Ranunculus aquatilis,* No. 1158. Ogilvie Mountains: Lake west of Dempster Highway, Mile 58, in shallow water, Nos. 326, 484, and 499. In Yukon otherwise known from Whitehorse and from two stations on the Canol Road (Porsild 1951*a*).

Callitriche verna L. *emend.* Lönnr.
Vicinity of Mayo: In small lakes 4 miles north of town, elevation 1,900 ft, No. 787; Minto Bridge in shallow pond, No. 874. Ogilvie Mountains: In shallow ponds along Dempster Highway, Miles 57–58, Nos. 301 and 437; and Miles 90–91 in ponds on river flats, Nos. 1753 and 1755; Bell River near Lapierre House, Youngman & Tessier, No. 622. The last is a new northern limit for Yukon.

VIOLACEAE

Viola epipsila Ledeb. ssp. ***repens*** (Turcz.) Becker
Apparently common in moist, grassy places along the Dempster Highway where it was the only member of the genus noted, and where it may ascend above the timberline, Nos. 74, 108, 279, and 1823. *V. epipsila* is the only North American member of the genus to range beyond the Arctic Circle almost to the shores of the Arctic Ocean. Mount Sedgwick, 68°58′N, 139°01′W, A.M. Pearson, No. 70-24A.

ELAEAGNACEAE

Shepherdia canadensis (L.) Nutt.
Apparently common on wooded river terraces of the Ogilvie Mountains, along Dempster Highway, Miles 54–82, Nos. 237, 489, 1633, and 1831.

ONAGRACEAE

Epilobium anagallidifolium Lam.
Stewart Plateau: Keno Hill, common in damp moss by alpine brooks, elevation 5,500–6,000 ft, Nos. 972, 1018, 1036, 1053, and 1221–22. Ogilvie Mountains: In wet moss by creek along Dempster Highway, Mile 47, No. 1845, which is a new northern limit for this species in Yukon; it has been collected, however, in the Richardson Mountains west of the lower Mackenzie River and, no doubt, also occurs in mountains of northern Yukon.

Epilobium arcticum Sam.
Ogilvie Mountains: In alpine herbmats east of Dempster Highway, Mile 54, elevation 6,000 ft, No. 473. A truly arctic species of amphi-Atlantic range, in North America thus far known from central East and West Greenland, the islands of the Canadian Arctic Archipelago, including Axel Heiberg Island west to Banks Island, to the northern Hudson Bay shores, with one disjunct station in the Richardson Mountains west of the Mackenzie Delta. The present collection is the first from Yukon.

Our specimens are 6–8 cm high, with stiffly erect capsules containing almost mature seeds on 15 Aug., when the short overwintering offsets were fully formed. *E. davuricum* grew on forested river flats in the valley below. In *E. arcticum* the leaves are oblong-oblanceolate, 2–4 times longer than wide, whereas in *E. davuricum* they are linear to narrowly lanceolate, 10–13 times longer than wide.

For a discussion of the status of *E. arcticum* see Porsild 1955: 165.

Epilobium davuricum Fisch.
Ogilvie Mountains: On forested river flats along Dempster Highway, Miles 57–58, elevation 2,500 ft, on gravel bars, specimens 40 cm tall, with flowers and mature fruits on 23 July 1966, No. 306.

Epilobium glandulosum Lehm. var. ***adenocaulon*** (Hausskn.) Fern.
Vicinity of Mayo, 63°35′N, 135°55′W, along shores of small lake, Nos.1202, 803, and 1014. A chromosome count of 2n=36 was obtained from No. 1202 (Mulligan and Porsild 1969). Ogilvie Mountains: In rich meadow west of Dempster Highway, Miles 96–98, No. 1729, which represents a new northern limit for Yukon. In Yukon our plant was reported from the southern parts of the Canol Road (Porsild 1951*a*) as *E. glandulosum* var. *perplexans* (Trel.) Fern., which, according to Fernald (*In* Gray 1950), is a synonym for *E. ciliatum* Raf.

Epilobium Hornemannii Reichenb. *s. lat.*
Stewart Plateau: Mount Haldane in wet gravel in cirque, elevation 4,500 ft, No. 589; "Highlet Gulch", tributary to Minto Creek, Nos. 824, 825, and 826. Ogilvie Mountains: River flat along Dempster Highway, Miles 51–52, No. 218. Southwestern Yukon: Environs of Mackintosh south of Kluane Lake, Schofield & Crum, Nos. 7774, 7777, 8021, and 8129.

E. Hornemannii and the closely related *E. lactiflorum* are alpine but not arctic species, with bicentric and similar ranges in North America. Thus, the range of the eastern population of *E. Hornemannii* extends from central East and West Greenland over Labrador–Ungava, Newfoundland, to the Gulf of St. Lawrence and the foot of James Bay. Its western population, separated by a gap of nearly 1,500 miles of woodland, grassland, or tundra, extends from Seward Peninsula in western Alaska, through the Canadian Cordillera, south to Colorado. Thus far, it has not been reported from the Northwest Territories, but will likely turn up in the mountains west of the Mackenzie River.

Epilobium lactiflorum Hausskn.
Keno Hill, 63°58′N, 135°42′W, elevation 5,500 ft, on rich herbmat slope, No. 973. In Yukon previously reported from the Mayo district and from several stations along the Canol Road and Macmillan Pass (Porsild 1951*a*). Southwestern Yukon: Known from the vicinity of Mackintosh, Schofield & Crum, No. 7711; from St. Elias Mountains, Dezadeash River valley, on snow patch slope at west end of Kathleen Lake, elevation 4,200 ft, A.M. Pearson, No. 67-221A.

HALORAGACEAE

Myriophyllum exalbescens Fern.
Ogilvie Mountains: Lake west of Dempster Highway, Mile 58, elevation 3,100 ft, in shallow water, Nos. 320, 482, and 493. In the summer of 1966 only sterile specimens were seen, and on 17 Aug. some had well-formed winter buds; south end of Chapman Lake, near Mile 72, No. 1759, in beginning anthesis on 5 Aug. 1968. Stewart Plateau: Minto Bridge, in shallow pond, No. 879; small lake near Elsa, No. 1160, fruiting specimens on 11 Aug. 1967 (Porsild 1951a, 1966).

Myriophyllum verticillatum L. var. ***pectinatum*** Wallr.
Stewart Plateau: In shallow ponds north of Mayo, Nos. 805 and 1245, the last with well-developed spike of well-formed but still immature fruits on 28 Aug. 1967. The collections are the first from Yukon, and bridge a wide gap between central Alaska and the Mackenzie River valley (Cody and Porsild 1968).

UMBELLIFERAE

Cicuta bulbifera L.
Stewart Plateau: In shallow water or wet mud by lake northeast of Mayo, Nos. 1250, 1857, and 1974. New to the flora of Yukon, and a new western limit in Canada, where its previously known westernmost station was at Norman Wells on the Mackenzie River.

Cicuta mackenzieana Raup
Stewart Plateau: In wet meadow 4 miles north of Mayo, Nos. 783 and 1244, associated with *C. bulbifera*. The present collections close a gap between the Dawson district and Sheldon Lake on the Canol Road.

Conioselinum cnidiifolium (Turcz.) Porsild
Stewart Plateau: Edge of woods northeast of Mayo, No. 673; gravelly riverbank near Dawson Highway near Mile 210, between Carmacks and Pelly Crossing, No. 1390. A common species of alluvial lakeshores and riverbanks, but thus far not reported from the mountains separating the Yukon and lower Mackenzie drainages.

PYROLACEAE

Pyrola secunda L.
The ssp. *secunda* and ssp. *obtusata* are wide-ranging across Canada, but as noted (Porsild 1951*a*:261), ssp. *secunda* is a woodland plant, whereas ssp. *obtusata*, always easily distinguished by its smaller and pale yellowish-green leaves (1.5 cm long and 1.0 cm wide) and few-flowered racemes, is arctic-alpine, ranging far beyond the treeline, and even reaching southern Banks and Victoria islands. In Yukon ssp. *secunda* has not been reported north of latitude 65°.

ERICACEAE

Cassiope tetragona (L.) D. Don ssp. ***saximontana*** (Small) Porsild
The cordilleran ssp. *saximontana* differs from the circumpolar ssp. *tetragona* by its consistently smaller flowers and much shorter peduncles; its corollas are about 5 mm long, against 7–8 mm in ssp. *tetragona;* in ssp. *tetragona* the flowers are commonly raised well above the tip of the branch on a peduncle up to 2 cm long, whereas in ssp. *saximontana* the flowers are clustered near the tip of the branches on very short peduncles that scarcely elongate in the post-floral period.

Since ssp. *saximontana* was first reported from the southern half of the Canol Road in southeastern Yukon (Porsild 1951*a*), it has been collected, as predicted, in the St. Elias Mountains and in southwestern Yukon: West of Kluane River in alpine tundra, elevation 4,800 ft, L.A. Spetzman, No. 292; on Mount Bratnober in alpine tundra, elevation 5,000 ft, *idem*, No. 293; near terminus of Dusty Glacier, 60°23′N, 138°12′W, elevation 4,400 ft, A.M. Pearson, No. 230. In southeastern Yukon, as noted (Porsild 1951*a*), ssp. *saximontana* was found mainly on snowflushes in ravines, and was not seen to form extensive heath. Only on Mount Sheldon were both races seen, although never together, nor was any sign of intergradation noted.

The ssp. *saximontana,* in common with several other cordilleran taxa, barely enters Yukon in mountains of the south and southwest, but it has not been seen in mountains of northern or central Yukon, nor in the northern Mackenzie or Richardson mountains. However, according to Gjaerevoll (1967:15) and Hultén (1968:725), its range extends over southwestern Yukon, westward to longitude 150° in the Alaska Range.

Loiseleuria procumbens (L.) Desv.
This species is strongly acidophilous, and its spotty distribution in Yukon and elsewhere within its general range is, no doubt, largely controlled by its preference for acid rocks. In Yukon it is known from granitic parts in the south, but is apparently lacking in the central and largely calcareous plateau, reappearing again in the northern parts, where it was recently collected on the south slope of the British Mountains: "Sam Lake", 68°30′N, 138°05′W, elevation 2,500 ft, A.M. Pearson, No. 70-20.

Rhododendron lapponicum (L.) Wahlenb.
Stewart Plateau: Mount Haldane, among *Abies lasiocarpa* scrub, elevation 5,500 ft, No. 663. Ogilvie Mountains: River flat along Dempster Highway, Mile 53, No. 112, and noted in alpine tundra near Mile 115.

Vaccinium uliginosum L.
Mount Haldane, 63°51′N, 135°50′W, on the northern slope ascending to the timberline, approximate elevation 4,000 ft, where the var. *alpinum* L. forms a low scrub, No. 576; above the timberline var. *alpinum* is replaced by var. *microphyllum* Lge., which grows here as a low, flat shrub in open lichen heath, No. 661 (Porsild 1951*a*:268). The var. *alpinum* was noted as common in muskeg and open spruce bogs along Dempster Highway, Miles 51–52, No. 203, and was still noted occasionally as far as Mile 115.

DIAPENSIACEAE

Diapensia obovata (F. Schm.) Nakai
The soil preference and the Yukon range of this species are rather similar to that of *Loiseleuria procumbens,* although thus far *Diapensia obovata* has not been reported in Yukon from north of latitude 64°. It is, however, known from the east slope of the Richardson Mountains (Porsild 1943:43), and will, no doubt, also be found in the mountains of northern Yukon. The westernmost station known for *D. lapponica* is at the head of Bathurst Inlet (longitude 106°W) on the Arctic Coast of Canada.

PRIMULACEAE

Androsace Chamaejasme Host.
Mount Nansen, 62°06′N, 137°17′W, in dry, alpine-lichen heath, No. 1369A. Ogilvie Mountains: dry, calcareous tundra along Dempster Highway, Miles 81-82, No. 1474; rocky ledges and screes west of Mile 100, var. *arctica* R. Knuth, Nos. 1704 and 1856, 2n = 20 (Mulligan and Porsild 1970). These all belong with the common northwestern representative of *A. Chamaejasme*, variously distinguished as var. *arctica* R. Knuth or as ssp. *Lehmanniana* (Spreng.) Hult.; its leaves are narrowly lanceolate, 6–8 mm long, flat and densely villous from long, simple hairs, at least on the lower surface and along the margins; the expanded corollas are 5–8 mm in diameter, usually creamy white, often turning pink in drying; the scapes are 5–12 cm tall, elongating in post-anthesis, as are the flowering peduncles. In the northwest, as well as in the Canadian Rocky Mountains, *Androsace Chamaejasme* is commonly confined to well-drained calcareous, stony, or gravelly soils.

A smaller and more delicate plant was collected south of Dempster Highway, Mile 110, on the lower slope of limestone hill, No. 1111, A.E. & R.T. Porsild, No. 23,658. It differs rather strikingly from the series cited above by its smaller size and above all, by its linear-oblong, prominently keeled leaves, 3–4 mm long, crisply short-villous on both sides, by its glabrate scapes 2–5 cm tall, and by its umbels, usually 2-3-flowered, subtended by 2 prominently saccate bracts. Calyx short-villous, about 3 mm long, corolla 3–4 mm in diameter, pink.

Douglasia Gormanii Constance
Mount Nansen, 62°06′N, 137°17′W, among lichens in alpine heath, No. 1359; Mount Haldane, 63°51′N, 135°50′W, in slide-rock, elevation 5,500 ft, No. 666; rocky patches in *Cassiope* heath, elevation 4,000 ft, No. 561. Ogilvie Mountains: Mountain east of Dempster Highway, Mile 51, approximately 64°00′N, 138°20′W, not uncommon in damp, gravelly places and on "frost boils" in alpine tundra, elevation 6,500 ft, Nos. 1576 and 1582. New northern limit for Yukon Territory.

In the flowering state *D. arctica* and *D. Gormanii* are not always readily distinguishable, but as noted (Porsild 1951*a*), the latter can nearly always be recognized by its more pulvinate-caespitose habit, by its short, branched hairs on the margins and the upper surfaces of the leaves, and above all by its short, non-elongating fruiting peduncle that is rarely more than 1 cm long. In *D. arctica* the peduncles are 2–5 cm long, and the leaves are glabrous above (Porsild 1966: map 117).

Primula mistassinica Michx.
Bonnet Plume Lake, approximately 64°20′N, 132°00′W, W.H. Butler & N. Olsen, No. 79, 11–27 July 1966. The first, and the only other, Yukon specimen of *P. mistassinica* known to me is from the Frances River, approximately 61°N, 129°W, collected by Geo. M. Dawson in 1887.

Primula sibirica Jacq.
Braeburn Lake, 61°27′N, 135°46′W, on peaty lakeshore, No. 1920. The North American distribution of *P. sibirica* is peculiar; an eastern population is known from southwestern Yukon and adjacent Alaska, and a western population is apparently confined to the eastern and western shores of Bering Sea and Bering Strait. Thus far, no specimens have been reported from the intervening 500-mile gap.

Trientalis europaea L. ssp. ***arctica*** (Fisch.) Hult.
Stewart Plateau: Vicinity of Mayo, in rich spruce-birch woods, No. 697. The collection bridges a gap between the Dawson area and the upper Canol Road (Porsild 1966: map 120).

GENTIANACEAE

Gentiana algida Pall.
Ogilvie Mountains: Open, damp places among tall willows along Dempster Highway, Mile 58, No. 272; Mile 67, No. 1814 and Mile 82, elevation 4,200 ft, No. 1143. The last station is a new northern limit for Yukon.

Gentiana prostrata Haenke
Keno Hill, 63°58′N, 135°42′W, elevation 5,500 ft, in rich herbmat with *G. arctophila*, No. 952A. Ogilvie Mountains: River flats along Dempster Highway, Mile 57, elevation 2,500 ft, No. 156; near Mile 85, openings in willow thickets, No. 1554. The last is a slight northward extension of the known range for Yukon, where thus far it has been collected a few times along the Canol Road, in the Kluane Lake region, and near Dawson.

Lomatogonium rotatum (L.) E. Fries ssp. ***tenuifolium*** (Griseb.) Porsild

Stewart Plateau: Carmacks Road, Mile 71, near Twin Lakes, in a wet meadow, No. 1865. Ogilvie Mountains: In moist tundra near Miles 82–86 on Dempster Highway, Nos. 1089, 1620, 1626, and 1115; No. 1115 is a rather striking white-flowered form: **f. *albiflorum* n. forma,** *corollis albis* (Type: CAN).

As noted (Porsild 1955:174), *Lomatogonium rotatum* in North America is composed of two distinct geographical races, of which ssp. *rotatum* is strictly littoral,[*] of lower stature, and with fewer and larger flowers. The ssp. *tenuifolium* (Griseb.) Porsild is a nonlittoral inland race, distinguished by taller and more fastigate growth, narrower leaves and calyx lobes, and by more numerous but smaller flowers. The latter is wide-ranging on interior floodplains from central Alaska, Yukon, and the Mackenzie River valley, south through foothills and interior valleys of the Rocky Mountain region to Colorado.

Menyanthes trifoliata L.

Ogilvie Mountains: Common in ponds along Blackstone River near Mile 75 on Dempster Highway, Nos. 186 and 1780; Old Crow River near mouth of Johnson Creek, 67°35′N, 139° 50′W, elevation 800 ft, Youngman & Tessier, No. 662. The last is a new northern limit for Yukon Territory.

POLEMONIACEAE

Collomia linearis Nutt.

Vicinity of Minto Bridge, 63°41′N, 135°51′W, in a meadow above the bridge, flowering on 18 July 1967, No. 892. Ogilvie Mountains: Dempster Highway, in rich meadow near Miles 96–98, apparently well established, with fully ripe fruits on 30 July 1968, No. 1718.

The Genus *Phlox* in Alaska and the Yukon

Hooker (1838:73) noted that specimens of what he considered to be *Phlox sibirica* from Kotzebue Sound, Alaska, collected during Capt. Beechey's Voyage, "differ in no respect whatever from the numerous Siberian and Dahurian ones in my herbarium". Until recently, students of the flora of Alaska accepted this view, although Hultén (1948:1319) recorded that "Alaska specimens have shorter and broader leaves than most of the Siberian specimens seen", but this, he added, "is natural, as the Alaskan specimens are of the northernmost within the area of the species". The American range then known to Hultén (1948: map 998) included the American shores of Bering Strait from just north of the Yukon Delta north to Cape Lisburne, and, in the interior, four stations on the south slope of the Brooks Range, the nearest disjunct by some 200 miles from the coastal population.

In recent years *P. "sibirica"* has been collected in Alaska on calcareous, volcanic rocks wherever they outcrop: from Norton Sound north to Cape Beaufort, in the central Brooks Range, and on calcareous shale or limestone in the British, Richardson, and Ogilvie mountains of Yukon Territory. The large series of *"sibirica"* specimens that I have examined from Alaska and from the Yukon River are very uniform, but although they are obviously related to, they cannot satisfactorily be placed with, *P. sibirica* L. Incidentally, *P. sibirica* L. is the only Old World member of this otherwise North American genus. Although its ancestors may have originated in North America, its present range extends from the southern Ural Mountains, eastward along the northern rim of the central Asiatic highlands to the upper Kolyma River in eastern Siberia, and it is thus separated from its closest North American relative, *P. alaskensis* Jordal, by a gap of 1,500 miles.

In addition to *P. "sibirica"* and *P. alaskensis,* two other species of *Phlox* have been reported from our area. These are *P. Richardsonii* Hook. and *P. Hoodii* Richards. The first, although reduced to *P. sibirica* ssp. *Richardsonii* Hult. (Hultén 1967), is in my opinion abundantly distinct and actually endemic in a small area in the Canadian Arctic, with a few disjunct and alpine stations in unglaciated mountains of northern Yukon and central Alaska. *P. Hoodii* is neither alpine nor arctic, but is a foothill species of dry, gravelly riverbanks and terraces, wide-ranging in these situations in the Canadian Prairie Provinces and in the northern and central United States. As noted (Porsild 1955:175; 1966:51–53), all *Phlox Hoodii* reported from Alaska and the Yukon are merely extreme and depauperate forms of *P. Richardsonii.*

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[*] A single, truly inland station is known from the east shore of Great Bear Lake, Northwest Territories, where I noted ssp. *rotatum* by a cold mineral spring (A. E. & R. T. Porsild, No. 5183).

The following key should be helpful in distinguishing northwestern members of the genus *Phlox*.

A. Loosely caespitose or matted; leaves opposite, connate, their thin, flat blades 1–3 cm long and about 2 mm wide, spaced by internodes more or less glabrous, 1–2 cm long; leaf margins villous from coarse, flat, crinkly hairs, more or less septate; flowers terminal, 1–3, on glandular or villous peduncles from 0.5–3.0 cm long; corolla lilac or pink, the limb 1.5–2.5 cm in diameter.

  B. Leaves 1.0–1.5 cm long; flowers solitary, not scented and not fading in drying, on very short, villous, but not conspicuously glandular peduncles; calyx lobes villous; limb of corolla 1.5 cm in diameter or less; locules one-ovuled. Endemic in unglaciated, calcareous mountains of western and northwestern Alaska, eastward to northern Mackenzie Mountains, Northwest Territories. *P. alaskensis* Jordal (= *P. sibirica*, of Amer. *auctt. non* L.).

  BB. Leaves 1.5–3.0 cm long; flowers commonly more than one, on peduncles up to 3 cm long, densely short-glandular, but usually not villous; calyx lobes very narrow, glabrous or thinly villous; locules 2-ovuled; limb of corolla about 2.0 cm in diameter. Mountains of central and eastern Siberia east to Kolyma River; not known in North America. *P. sibirica* L. *s. str.*

AA. Densely caespitose, from a strong, subligneous taproot: leaves imbricated, marcescent for many years, with strongly revolute margins, commonly less than 1.0 cm long, cobwebby beneath; flowers solitary and terminal, the limb of the corolla less than 1.5 cm in diameter.

  B. Leaves awl-shaped, silvery grey; flowers small, not scented, the corolla white, 7–8 mm in diameter. Prairie and foothill species from southern Alberta, east to Manitoba, southward through foothills to Montana, Idaho, Wyoming, Nebraska, and Oregon. *P. Hoodii* Richards.

  BB. Leaves distinctly apiculate, flowers scented, corolla pink or lilac, drying white, 1.2–1.4 cm in diameter. Arctic-alpine. Endemic in western islands of the Canadian Arctic Archipelago, south to the Arctic Coast of the western Mackenzie District and mountains of unglaciated western Yukon and central Alaska. *P. Richardsonii* Hook.

Phlox alaskensis Jordal, Rhodora 54:38 (1952).

P. sibirica auctt. non L.

P. borealis Wherry, Morris Arboretum Monogr. 3:217 (1955).

P. Richardsonii ssp. *alaskensis* (Jordal) Wherry, Baileya 4:98 (1956).

P. sibirica ssp. *borealis* (Wherry) Shetler, Rhodora 65:220 (1963).

Ogilvie Mountains: Mountain east of Miles 50–54 along the Dempster Highway, rocky exposures in alpine herbmats, elevation 4,800 ft, No. 169; same place on gravelly scree, elevation 6,000 ft, flowering on 24 June 1966, No. 21, and No. 1840 with ripe seeds and late flowers on 12 Aug. 1968; a chromosome count of 2n = 14 was obtained from No. 1840 (Mulligan and Porsild 1970); limestone hills west of Miles 81–85, on rock stripes in alpine heath, elevation 5,200 ft, with ripe fruits on 4 Aug. 1967, Nos. 1106, 1521, 1566, and 1779; a chromosome count of 2n = 14 was obtained from No. 1779 (Mulligan and Porsild 1970); lower slope of limestone hills south of Mile 110, A.E. & R.T. Porsild, No. 23,659.

In addition to the above, the following specimens of *P. alaskensis* from Yukon Territory and Mackenzie District are in the National Herbarium of Canada: Yukon Territory: Along the 141st meridian, approximately 67°N, south of Porcupine River, F.H. Nelles, No. 31; Peel River basin, 10 July, *idem*, No. 105; C. Camsell, No. 67,891; Firth River, 68°50′N, 140°33′W, Youngman & Tessier, No. 142; Mount Sedgwick, 68°58′N, 139°01′W, A.M. Pearson, No. 70-27B. Mackenzie District: Eastern slope of Richardson Mountains west of Mackenzie Delta, approximately 68°N, 136°W, A.E. Porsild, No. 6712, reported as *P. Richardsonii* (Porsild 1943).

Phlox Richardsonii Hook.

Ogilvie Mountains: Mountain east of Dempster Highway, Miles 57–58, No. 264. Stewart Plateau: South of Mayo, 63°N, elevation 4,800 ft, Hugh Bostock, No. 223. In addition, the following Yukon collections of *P. Richardsonii* are in the National Herbarium of Canada: "Selkirk Trail" near Aishihik, J.B. Tyrrell, No. 19,443; same place, flowering on 15 June 1960, Mrs. J. Lammers; Alaska Highway between Alaska boundary and Champagne, Yukon Territory, Lloyd A. Spetzman, No. 317; St. Elias Mountains, moraines along Steele Glacier, elevation 6,000 ft, D.F. & B. Murray, No. 1368; west of Rocky Mountains between Fort Yukon and Lapierre House, McT[avish]; Red Mountain, Yukon Territory, 61°00′N, 133°46′W, W.H. Gorman, No. 974; "Selkirk Trail" near Aishihik, Yukon Territory, J.B. Tyrrell, 6 Sept. 1898. The last two numbers were cited as *P. Hoodii* by Hultén (1948:1318).

Polemonium occidentale Greene, Pitt. 2:75 (1890).
Polemonium: Brand *in* Pflanzenr. IV, 250, Heft 27:33 (1907).
P. coeruleum ssp. *occidentale* (Greene) J.F. Davidson, Univ. Calif. Publ. Bot. 23:225 (1950).
P. acutiflorum Willd. ssp. *occidentale* (Greene) Hult., Fl. Alaska & Yukon 8:1323 (1948).
Ogilvie Mountains: Dempster Highway, Mile 23, on gravelly floor of abandoned rock quarry, flowering on 23 June 1968, No. 1430, with ripe seeds on 2 Aug., No. 1755. These, as well as the series of *P. occidentale* from central Yukon that I cited (Porsild 1951*a*), are inseparable from *P. occidentale* from Alberta, British Columbia, Washington, Montana, Wyoming, and Nevada.

Polemonium occidentale is a cordilleran species, commonly up to 1 m tall, with an elongating inflorescence of 20 or more flowers, the petals not ciliate. *P. acutiflorum* is rarely more than half as tall; the inflorescence (cf. illustration in Hultén 1968:767) is short, often branching, not elongating in fruit, rarely with more than half a dozen flowers, the petals distinctly ciliate. Its range is typically amphi-Beringian, and in the Canadian Rocky Mountains it has not been collected south of latitude 55°N. Its chromosome numbers are $2n=18$ (Mulligan and Porsild 1970), as are those of *P. pulcherrimum* and *P. acutiflorum* (Mulligan and Porsild 1969). The fact that the northern population of *P. occidentale* is disjunct from that of the Rocky Mountains by a gap of more than 1,200 miles, and that in central Yukon and Alaska it is, to my knowledge, restricted to placer mining areas strongly suggests that *P. occidentale* is a recent introduction in this area, dating only as far back as the early days of gold mining, when horses were widely used in the mining camps, and when each year thousands of tons of hay were imported from Pacific ports of Canada and the United States. In Alberta *P. occidentale* is commonly seen by roadsides or as a "weed" in mountain pastures and hayfields.

HYDROPHYLLACEAE

Phacelia mollis McBride
Ogilvie Mountains: River flat along Dempster Highway, Mile 57, growing in dry, gravelly places, with flowers and fully ripe seeds on 18 July 1966, No. 221; in a similar place near Mile 67, No. 1796. $2n=22$ (Mulligan and Porsild 1970). A very rare plant, thus far collected a number of times in the Dawson Range of southwestern Yukon and in central Alaska.

BORAGINACEAE

Eritrichium aretioides (Cham. & Schlecht.) DC.
Ogilvie Mountains: Limestone mountains west of Miles 81–83 on Dempster Highway, approximately 65°00′N, 138°15–20′W, dominant locally in dry, calcareous tundra, elevation approximately 4,200 ft, Nos. 1098, 1475, and 1619; in similar places on Dempster Highway south of Mile 115, A.E. & R.T. Porsild, Nos. 23,661–62. Common locally in northern Yukon, but perhaps always restricted to shallow, turfy places on limestone; as yet not reported from the Richardson Mountains in the Northwest Territories (Porsild 1966).

Eritrichium splendens Kearney
A very rare plant described in 1902 from Baird Mountain in northwestern Alaska and long known only from a few other stations in mountains of northern and central Alaska; it was reported recently from the Richardson Mountains, Northwest Territories (Cody and Porsild 1968), and will likely also turn up on the west slope of the Richardson Mountains and elsewhere in northern Yukon Territory.

LABIATAE

Dracocephalum parviflorum Nutt.
Stewart Plateau: Vicinity of Mayo on gravel banks near wood clearing, tall flowering specimens on 22 June 1967, No. 558; Hunker Creek near Dawson, 63°57′N, on gravelly creek bank, No. 1394; Midnight Dome near Dawson, 64°04′N, in open woods, No. 1418. I reported the species (Porsild 1951*a*) from a number of stations along the newly constructed Canol Road in southwestern Yukon,

where its occurrence suggested recently established colonies in disturbed soil. If this taxon is not native to Yukon, it is now at least well established in many places.

Mentha arvensis L.
Braeburn Lake near Mile 54 on Whitehorse–Carmacks Road, approximately 61°27′N, 135°48′W, on moist, peaty lakeshore, flowering on 15 July 1969.

Scutellaria epilobiifolia A. Ham.
Stewart Plateau: Vicinity of Mayo, by small lake 4 miles north of town, flowering on 13 July 1967, No. 806; Five Mile Lake with mature fruits on 26 Aug. 1967, No. 1297. In Yukon thus far known only from the vicinity of Mayo, where first reported by J.P. Anderson (1944).

SCROPHULARIACEAE

Castilleja hyperborea Pennell
Mount Haldane, 63°51′N, 135°50′W, open alpine heath, elevation 5,500 ft, Nos. 603 and 683; Keno Hill, 63°58′N, 135°42′W, in alpine herbmats, elevation 5,500–6,000 ft, Nos. 537, 980, and 1220; Galena Hill, in alpine heath, No. 1169. Ogilvie Mountains: Alpine herbmats east of Miles 57–58 on Dempster Highway, elevation 6,000 ft, Nos. 254 and 346; limestone hills west of Miles 81–82 in alpine heath, elevation 4,200–5,200 ft, Nos. 1108 and 1504; common near Mile 110, A.E. & R.T. Porsild, No. 23,662. Common locally and perhaps always above timberline.

Castilleja pallida (L.) Spreng. ssp. ***caudata*** Pennell
Ogilvie Mountains: Common lowland species of riverbank meadows and among willows along Dempster Highway, Miles 57–58, Nos. 135 and 407, and Miles 81–82, Nos. 1134, 1541, and 1650.

Castilleja villosissima Pennell
Southwestern Yukon: St. Elias Mountains in Alsek River valley near "Beachview Creek Pass", elevation 4,500 ft, near the type locality, A.M. Pearson, No. 67-182A; Burwash Landing, in a dry meadow near the airstrip, A.E. Porsild, No. 23,528. *Castilleja villosissima is* perhaps most closely related to *C. hyperborea* and *C. yukonis*, and thus far is known only from a few collections, all in southwestern Yukon.

Castilleja yukonis Pennell
Ogilvie Mountains: Calcareous floodplain on gravel bars in Blackstone River valley near Miles 81–83, Dempster Highway, No. 1604. Less common than *C. hyperborea*, and perhaps restricted to well-drained calcareous soils.

Euphrasia subarctica Raup
Mayo, along footpath to an abandoned Indian cemetery, No. 933. My map (Porsild 1966: map 126), which gives the Alaska–Yukon distribution, should include a dot for Mayo.

Lagotis Stelleri (Cham. & Schlecht.) Rupr.
Ogilvie Mountains: Dempster Highway near Mile 110, common on moist, stony floodplain below limestone hills, A.E. & R.T. Porsild, Nos. 23,663–64. The collection closes a gap between central Yukon and the Arctic Coast.

Mimulus guttatus DC.
In Yukon long known only from an early collection from Whitehorse Rapids, John Macoun, 1902 (Porsild 1951a:282). We now have confirmatory collections, both from the Whitehorse area: 4 miles south on "Fish Lake Road", Micky Lammers, 5 Aug. 1963; McIntyre Creek below water reservoir, No. 1929.

Pedicularis arctica R. Br.
Keno Summit, 63°58′N, 135°42′W, elevation 6,000 ft, No. 1047. Ogilvie Mountains: Common in boggy tundra along Dempster Highway, Miles 44–110, Nos. 267, 280, 1448, and A.E. & R.T. Porsild, No. 23,665.

P. arctica is wide-ranging across the Canadian Arctic Archipelago to northwestern Greenland, and is also not uncommon in alpine situations west of the Mackenzie River valley, as well as in mountains of the Yukon and Alaska. In continental Northwest Territories, on the other hand, it is known only from a single station on the Thelon River, 64°16′N, 103°35′W, G.B. Rossback, No. 6504.

Pedicularis lanata Cham. & Schlecht. ssp. ***yukonensis* n. ssp.**
Differt a P. lanata[*] *galea tenuiter lanata.*

Yukon Territory: Dawson Range, Mount Nansen, 62°08′N, 137°17′W, 40 miles west of Carmacks, in damp, alpine tundra, flowering on 16–17 June 1968, No. 1377 (Type: CAN); Dawson Range 62°40′N, 138°00′W, elevation

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[*] *P. Kanei* Durand, according to Hultén 1967.

5,000 ft, Hugh Bostock, No. 273; approximately the same place, elevation 5,500 ft, 19 July 1933, *idem*, No. 11. Kluane Lake: Burwash Landing, above timberline at 6,000–7,000 ft, 3 July 1943, C.H.D. Clarke, No. 273; Burwash Creek, 61°30′N, 139°17′W, in damp meadow, elevation 4,500 ft, A.M. Pearson, No. 70-1; summit of "Sugden Pass", 12 miles southwest of Haines Junction, elevation 4,900 ft, *idem*, No. 261; vicinity of Steele Glacier, moist lower slopes, David F. & Barbara M. Murray, No. 1444; Yukon River (probably near the Alaska border), Wm. Ogilvie, July 1887. Alaska: Divide Mountain, approximately 64°05′N, 141°00′W, in tundra, 29 July 1967, Lloyd Spetzman.

A few collections from Yukon Territory of *P. lanata*, with thinly hirsute galeas, have long been known to me. Because these specimens differed from typical *P. lanata* in no other respects, I did not consider the presence of a few hairs on the galea of taxonomic significance. However, alerted by Hultén's straight transfer of the Siberian *P. Adamsii* Hult. to *P. Kanei* ssp. *Adamsii* (1967:121), which he later described as "similar to ssp. *Kanei*, but galea pubescent and the lip ciliate in the margin" (Hultén 1968:827), I carefully examined all material of *P. lanata* in the National Herbarium of Canada, in addition to some material from other herbaria. The examination showed that among the several hundred collections, eight from alpine situations in central and southeastern Yukon and one from adjacent mountains of central Alaska could be distinguished from typical *P. lanata* by their hirsute galeas and ciliate lips.

The fact that all nine collections came from alpine situations within a narrowly restricted area, subject only to local glaciation, suggests that the hairiness of the galea and the ciliate lip peculiar to these plants was perhaps of some taxonomic significance, and, moreover, suggests great age and long geographical isolation.

In the National Herbarium of Canada there are three flowering specimens labelled *P. Adamsii* Hult., all from the lower Lena River in central Siberia, distributed by Inst. Bot. Acad. Sci. URSS. The collectors are: V. Schamurin, 1955; T. Polsova & B. Jurtzev, 1956; and L. Malyshev, 1964. These specimens match exactly the description of *P. Adamsii* Hult. (Hultén 1930:117), and differ from *P. lanata* Cham. & Schlecht., as well as from ssp. *yukonensis*, by their spikes (up to 5 cm wide) of very large flowers, in which the corolla is 3 cm long, and the galea strongly falcate, distinctly toothed below the apex.

The plant illustrated by Hultén as *P. Kanei* ssp. *Adamsii* (1968:827) is smaller, but in habit and in the strongly falcate galeas closely matches the Lena River specimens cited above.

In view of the discrepancies cited, the relation of *P. Adamsii* Hult. to *P. lanata (P. Kanei)* is not very obvious, and it is puzzling that in his key Hultén (1968:816) places *P. Kanei* ssp. *Adamsii* under the heading: "Galea lacking in teeth in the apex". At any rate, it can be definitely stated that *P. lanata* ssp. *yukonensis* is not synonymous with *P. Adamsii* Hult., and that it appears to be endemic in a small and isolated alpine area in southwestern Yukon and adjacent parts of Alaska.

Pedicularis lapponica L.
Ogilvie Mountains: Dempster Highway, rare and local in rich alpine heath and herbmats, Miles 44–46, elevation 4,200 ft, No. 1459, and on river flat near Mile 63, No. 13; Old Crow River flats near "Sam Lake", A.M. Pearson, No. 70-19A. A subarctic, circumpolar tundra species, in Yukon and Alaska very rare and local south of latitude 67°N.

Pedicularis Oederi Retz.
Ogilvie Mountains: Rare and local in wet alpine tundra rich in lime, near Mile 81 on Dempster Highway, elevation 4,200 ft, No. 1486 (Porsild 1966:54).

Pedicularis sudetica Willd.
Very common in wet tundra and in boggy places along the Dempster Highway, where it is the most common member of the genus. Ogilvie Mountains: Miles 44–110, Nos. 12, 241, 340, 504, 548, 748, 1046, 1120, 1408, and 1505. Very variable regarding shape and degree of elongation of the inflorescence, as well as in the shape and cut of cauline bracts and basal leaves.

Pedicularis verticillata L.
Ogilvie Mountains: Rare and local in moist tundra along Dempster Highway, Miles 81–82, Nos. 1532, 1132A, and 1132B. No. 1132A was with fully ripe fruits, and No. 1132B was in full flower. Both were collected in the same meadow on 5 Aug. 1967, but 1132B was in an area where overflow ice had remained late; near Mile 110 on calcareous floodplain, A.E. & R.T. Porsild, No. 23,667.

Rhinanthus groenlandicus Chab.
Lake Laberge, in meadows along Richthofen Creek, 61°06′N, 135°24′W, No. 1953. In Yukon otherwise known from a few collections from near Whitehorse and from the Haines Road (Porsild 1951a:286).

Synthyris borealis Pennell
Ogilvie Mountains: Common locally in stony alpine herbmats on granitic mountains east of Dempster Highway, Miles 50–58, elevation 6,000–6,500 ft, Nos. 263, 178, 179, 411, and 1571. A chromosome count of $2n=24$ was obtained from No. 178 (Mulligan and Porsild 1969). See also Porsild 1966.

Veronica alpina L.
As noted (Porsild 1951a:283), var. *alterniflora* and var. *unalaschcensis* are not so distinct in the Yukon as in eastern North America, and they are certainly not "so strongly marked geographic varieties" as suggested by Fernald (1939:447). The first five numbers cited below were collected in alpine situations, and are best treated as var. *unalaschcensis*.

Mount Haldane, 63°51′N, 135°50′W, on snowflushes in main cirque, elevation 5,500 ft, No. 584; Keno Summit, 63°58′N, 135°42′W, in alpine herbmats, elevation 6,000 ft, No. 1056. Ogilvie Mountains: Snowbeds along Dempster Highway, Miles 50–58, elevation 4,200–4,500 ft, Nos. 281 and 460; on late snowbed in canyon, near Mile 43, No. 1855, $2n=18$ (Mulligan and Porsild 1970).

One collection, No. 830, from tributary to Minto Creek, 63°45′N, 136°10′W, on mossy riverbank among willows, by its strongly elongated fruiting head of mostly alternate capsules on pedicels 4–9 mm long, and by its opposite leaves drying green, suggests the var. *alterniflora* Fern.

OROBANCHACEAE

Boschniakia rossica (Cham. & Schlect.) Fedtsch.
Ogilvie Mountains: Dempster Highway, Mile 100, in mossy, open spruce woods on limestone hill, elevation 3,000 ft, parasitic mainly on the roots of *Picea glauca* and *Alnus crispa*, with mature seeds on 30 July 1968, No. 1714.

LENTIBULARIACEAE

Pinguicula villosa L.
Vicinity of Halfway Lakes north of Mayo, 63°48′N, 135°47′W, elevation 2,300 ft, Nos. 498 and 645. Ogilvie Mountains: On sphagnum hummocks in black spruce bog near Mile 55 on Dempster Highway, No. 153; in similar bog with *Oxycoccus microcarpus* near Mile 83, No. 1518; sphagnum bog at foot of limestone hills north of Mile 110, A.E. & R.T. Porsild, No. 23,668.

Pinguicula vulgaris L.
Ogilvie Mountains: Limestone hills west of Dempster Highway, elevation 5,200 ft, Miles 81–83, Nos. 1096, 1567, and 1601; lower slope of hills south of Mile 110, elevation about 3,000 ft, where very common on calcareous gravel, A.E. & R.T. Porsild, No. 23,669, associated with *Dryas alaskensis*.

I noted (Porsild 1951a) that in 1944 *Pinguicula vulgaris* was common on the eastern portion of the Canol Road, but I had not seen it west of the Yukon–Mackenzie border, nor had it then been reported from elsewhere in the Yukon.

Pinguicula vulgaris is a pronounced calciphile, which accounts for its uneven distribution throughout its range. In addition to the Yukon stations cited above, it is now known from the following stations: Twin Lakes, approximately 61°50′N, 136°00′W, in boggy places by lakeshore, No. 1890; vicinity of Burwash Landing in southwestern Yukon, Raup et al., Nos. 12,280, 12,460, 12,488, and 13,925. Arctic Slope: Firth River, June McNeish, CAN No. 236,763; Firth Lake 68°50′N, 140°33′W, Youngman & Tessier, No. 162, and, finally, Hultén (1967) reported it from a lake in the Mackenzie Mountains, 64°47′N, 133°31′W.

Utricularia intermedia Hayne
Stewart Plateau: In a shallow pond northeast of Mayo, in post-floral state on 1 July 1967, No. 653. In Yukon otherwise known from one collection near Dawson and another on the Alaska Highway near the Alaskan border, J.P. Anderson, No. 1210.

Utricularia minor L.
Stewart Plateau: Vicinity of Halfway Lakes north of Mayo, flowering on 17 July 1967, No. 859. Ogilvie Mountains: River flats along Dempster Highway, Mile 55, in shallow ponds

in a bog, Nos. 10 and 423, both sterile, the latter with winter buds forming at the tip of the branches on 3 Aug. 1966. In Yukon otherwise known from single collections near Dawson.

Utricularia vulgaris L. var. ***americana*** A. Gray
Vicinity of Mayo, 63°35′N, 135°45′W, common in small lakes, elevation 1,600–1,700 ft, Nos. 677, 810, 860, and 1201, the last with nearly ripe fruits on 21 Aug. 1967, the remainder with flowers on 1 July 1967. Ogilvie Mountains: In lake near Mile 75, on Dempster Highway, No. 1784; west of Miles 90–91, No. 1751; Nos. 1784 and 1751 sterile on 2 and 21 Aug. 1968. In Yukon this is the only member of the genus that is known to flower regularly, and in exceptionally warm summers it may even ripen seeds.

PLANTAGINACEAE

Plantago septata Morris
P. canescens sensu Hult., Fl. Alaska & Yukon 9 (1949) and Fl. Alaska & Neighboring Territories (1968) *non* Adams.
Vicinity of Mayo, 63°35′N, 135°55′W, on river terraces, Nos. 457 and 1206. A chromosome count of 2n = 12 was obtained from No. 1206 (Mulligan and Porsild 1969); Stewart Crossing, on gravelly river terraces, No. 1392.

Described from the Yukon River valley, 62°03′N, 135°40′W, *P. septata* appears to be a lowland species of calcareous prairie and river terraces. It is endemic in northwestern North America, reaching the Arctic Coast of the Mackenzie District and the southwestern islands of the Canadian Arctic Archipelago, but in central Alaska not extending west of longitude 150°. In the eastern Rocky Mountain foothills known to me south to Jasper Park, Alberta, and according to Moss (1959: 222), extends to southwestern Alberta, but was reported from Montana by Rydberg (1922).

RUBIACEAE

Galium trifidum L. ssp. ***trifidum***
Vicinity of Mayo, 63°35′N, 135°45′W, marshy lakeshores, Nos. 654, 821, 1008, and 1196A. A chromosome count of n = 12 was obtained from No. 1196A (Mulligan and Porsild 1969). Ogilvie Mountains: Swampy islands in lake west of Dempster Highway, Miles 90–93, No. 1565, with mature fruits on 13 July 1967. Bell River, 67°18′N, 137°50′W, Youngman & Tessier, No. 626. The last is its northernmost station known from the Yukon.

ADOXACEAE

Adoxa Moschatellina L.
Stewart Plateau, Mount Haldane, elevation 4,000 ft, No. 577. Ogilvie Mountains: River flats along Dempster Highway, Mile 56 on peaty ridges, flowering on 25 June 1966, No. 56; common locally in rich, loamy soil under willows along Miles 44–47, Nos. 1433 and 1848, the latter with mature fruits and 14 Aug. 1968. For the northwestern North American range of *Adoxa*, see Porsild 1966: map 133.

VALERIANACEAE

Valeriana sitchensis Bong.
Mount Nansen, 62°06′N, 137°17′W, by alpine brook, No. 1382; Midnight Dome near Dawson, 64°04′N, 139°42′W, in moist woods, No. 1419; Keno Hill, 63°58′N, 135°42′W, rich herbmat at 5,500 ft, No. 752; Bonnet Plume Lake, 64°20′N, 132°00′W, Butler & Olsen, No. 89. Ogilvie Mountains: 52 miles northeast of Dawson, Youngman & Tessier, No. 347; Dempster Highway near Mile 83, No. 1663.

Valeriana sitchensis is a cordilleran-Pacific Coast species; in western Yukon its range overlaps that of the amphi-Beringian *V. capitata* Pall. (Porsild 1966: maps 134 and 135).

CAMPANULACEAE

Campanula aurita Greene
Ogilvie Mountains: Limestone hills along west side of Blackstone River valley near Dempster Highway, Miles 81–83, Nos. 1086, 1607, and 1702, where it is common on calcareous floodplains and river terraces; very common on limestone scree south of Dempster Highway, Mile 110, A.E. & R.T. Porsild, No. 23,670. A pronounced calciphile, endemic but not uncommon locally in Alaska, Yukon, and central Mackenzie Mountains, Northwest Territories.

Campanula lasiocarpa Cham.
Very common mainly in alpine situations in southern and central Yukon, but thus far not reported from northern Yukon or from adjacent parts of the Mackenzie District. The following stations are from slightly beyond the previously known northern limit for the

species in Yukon. Ogilvie Mountains: Along Dempster Highway, Miles 50–54, Nos. 110, 163, and 172; moist alpine slopes and herbmats near Miles 83–84, Nos. 361 and 1671.

Campanula uniflora L.
Ogilvie Mountains: River flats along Dempster Highway, Miles 51–52, Nos. 114 and 210; in alpine herbmat, Miles 50–54, No. 147; turfy, calcareous tundra and herbmat slopes near Miles 81–86, Nos. 1084, 1482, 1488, and 1652. In Alaska and Yukon *C. uniflora* appears to be consistently taller than in eastern Canada; thus, among the last four numbers cited there are fruiting specimens over 30 cm tall.

COMPOSITAE

Achillea nigrescens (E. Mey.) Rydb.
A. borealis Bong.
Ogilvie Mountains: Dempster Highway, Miles 81–86, Nos. 1140, 1470, and 1625. Very common everywhere on dry slopes and gravelly floodplains. As noted (Porsild 1951*a*), it is one of the first native species to become established on disturbed soil along roadsides.

Achillea sibirica Ledeb.
Vicinity of Mayo, 63°35′N, 135°45′W, Nos. 687 and 858; Minto Bridge, Nos. 873 and 950. Ogilvie Mountains: Common in rich meadow on alluvial river flat west of Miles 96–98 on Dempster Highway, No. 1726.

Although less common and of more restricted range than *A. nigrescens*, *A. sibirica* likewise tends to become weedy and to readily invade disturbed soil along highways, riverbanks, and townsites.

The Genus *Antennaria*

In 1950 I noted (Porsild 1950*a*:1512) that the number of species of *Antennaria* in Alaska was small, but that their numbers and complexity increased rapidly as one entered eastern and southeastern Yukon and British Columbia. In the Old World the genus is represented by only six species, or, according to *Flora of the USSR*, vol. 25, nine species. The flora of eastern and southeastern Yukon is clearly an extension of the cordilleran flora and, like it, is rich in species of this essentially North American genus.

In the 20 years that have elapsed, a great deal of new *Antennaria* material from Alaska and the Yukon has come to me. In addition, during seven seasons of fieldwork in the northern Rocky Mountains, I became well acquainted with the rich *Antennaria* flora there. Contrary to the views expressed by Hultén (1967), I now find that this new material, as well as the wider experience gained in the Rocky Mountains, by and large confirms rather than weakens the conclusions expressed in my 1950 monograph (Porsild 1950*b*) of the northwestern members of the genus. It seems fairly obvious that certain species are wide-ranging arctic-alpines, and are therefore restricted to alpine situations in central Alaska and the Yukon; some are lowland species belonging with what I have called the eastern boreal forest element of the northwestern flora, of which few members reach into central Yukon, and very few are remnants of a once more widespread prairie or open grassland flora. It seems obvious, too, that the genus *Antennaria* is essentially North American, and that it is unrealistic to attempt to relate North American members of the genus to those of the Old World.

Section *Alpinae*

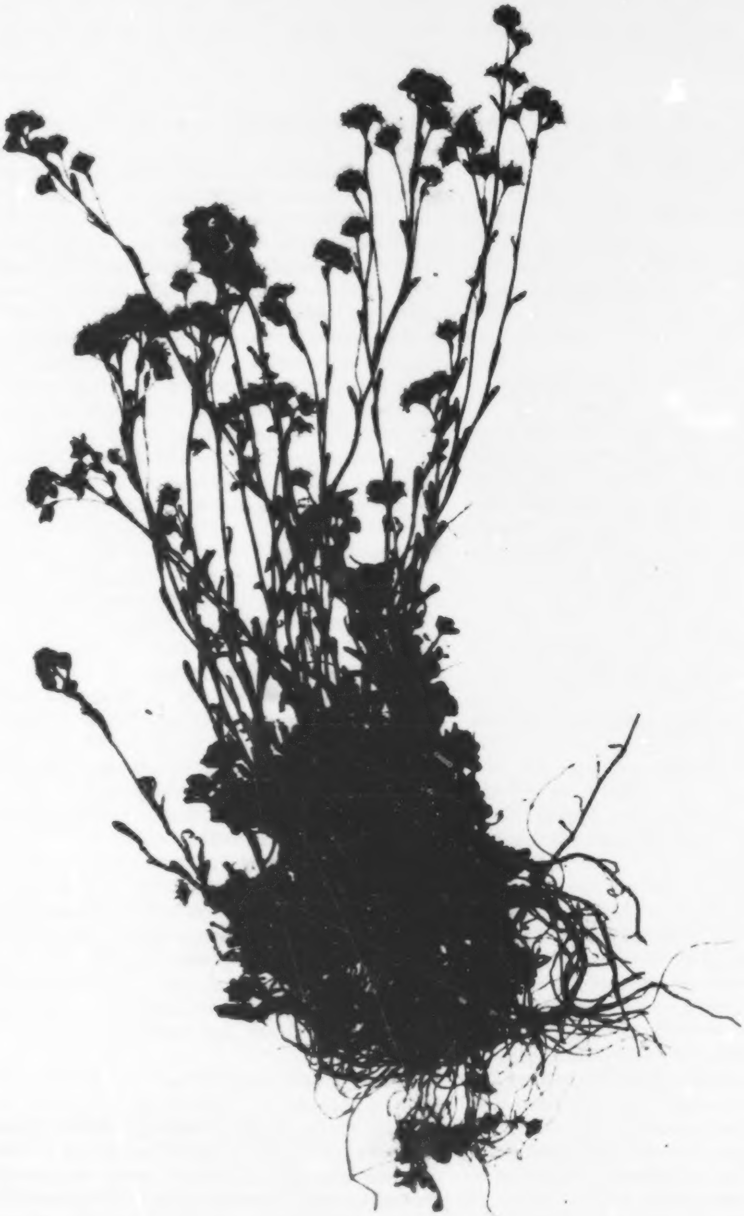
Bracts of the involucre (phyllaries) with pale greenish-brown to olivaceous or dark-brown tips, usually acuminate and erose.

Antennaria angustata Greene
Ogilvie Mountains: Dempster Highway, Mile 56, on grassy lower slopes of "Sheep Mountain", A.E. & R.T. Porsild, No. 23,671. An eastern arctic-alpine species, in Yukon collected only once before, on Firth River near the Arctic Coast, E.H. McEwen, No. 206, 6 Aug. 1953.

Antennaria compacta Malte
Mount Nansen, 62°06′N, 137°17′W, 40 miles west of Carmacks, in alpine lichen heath near summit, No. 1376. Densely caespitose dwarf species, wide-ranging from northern Greenland across northern islands of the Canadian Arctic Archipelago to mountains of central and northern Yukon and Alaska.

Antennaria densifolia Porsild
Ogilvie Mountains: Limestone hills west of Mile 82, on Dempster Highway, rare in alpine heath, No. 1109; on solifluction lobes of calcareous slopes, No. 1481; lower slopes of limestone hills south of Mile 110, A.E. & R.T. Porsild, No. 23,672; on moist calcareous gravel at base of same hill, *iidem*, No. 23,673.

In all the collections cited, male and female plants are represented; at anthesis the male



Antennaria Ellyae n. sp. (Type)
Approximately ⅔ natural size

flowers are quite showy because of their expanded pinkish-yellow corollas. The collections are the first from the Yukon. By its caespitose habit, short, crowded, and sessile branches, and small dioecious heads, *Antennaria densifolia* is one of the most easily recognized members of the genus. Thus far, *A. densifolia* was known only from a dozen or so collections from limestone hills of the east slope of the central Mackenzie Mountains, between latitudes 60°N and 64°N.

Antennaria Ekmaniana Porsild
Keno Summit, 63°58′N, 135°42′W, elevation 6,000 ft, in gravel spots on alpine tundra, No. 712. Ogilvie Mountains: Gravelly solifluction lobes on mountain east of Miles 44–46, Dempster Highway, elevation 4,200 ft, No. 1444; mountain east of Miles 57–58, elevation 6,500 ft, No. 372; in alpine herbmats near elevation 5,000 ft, No. 399.

Arctic species wide-ranging from Greenland to northern Alaska and south, almost to latitude 60°N in high mountains of Yukon.

***Antennaria Ellyae* n. sp.**
Humifusa, stolonibus bene evolutis, 3–6 cm longis, sublignosis, foliis valde confertis perbrevibus, cuneato-obovatis vel late oblanceolatis-obtusis nec mucronatis, 4–6 mm longis, 3–4 mm latis, utrinque dense coacto-tomentosis. Caules floriferi 8–17 cm alti, coacto-tomentosis, foliis 5–11 linearibus ca. 1.0 cm longis, 1–2 mm latis. Folia inferiora mere acuta, superiora apice anguste scarioso-apiculata. Calathiae femineae 3–7, cymam elongatam formantes, pedunculis inferioribus 1.5–3.0 cm longis. Involucrum 3 mm altum, bracteis bi-vel triseriatis sub-aequalibus; exterioribus basi atro-brunneis. Stylus bene exsertus. Achaenia laevia. Planta mascula ignota.

Ogilvie Mountains: Gravelly river flats near Dempster Highway, Miles 81–83, elevation 3,500 ft, fruiting on 26 July 1968, No. 1700 (Type: CAN), Plate 12; same place, No. 1605, 19 July 1968; rocky ledges on Dempster Highway, Mile 148, No. 2016.

By its very short, broad, and densely tomentose leaves, *A. Ellyae* resembles *A. densifolia*, from which it is, however, at once distinguished by its spreading, leafy, stolon-like branches and by its flowering stems, twice as tall and elongated, cymose inflorescence, strongly contrasting with the head-like, few-flowered inflorescences of *A. densifolia*, in which the male plant is apparently as common as the pistillate.

On the limestone hills of the Ogilvie Mountains between Miles 80–110 *A. Ellyae* was noted on calcareous river terraces near Miles 81–83, whereas *A. densifolia* invariably grew in more alpine situations.

Antennaria Ellyae is named for Mrs. Elly Porsild of Whitehorse, Yukon Territory, who, during the summers of 1966, 1967, and 1968, accompanied and greatly aided her husband in the collection and preservation of vascular plants in the wilderness of central Yukon for the National Herbarium of Canada.

Antennaria monocephala DC.
Mount Haldane, 63°51′N, 135°50′W, above elevation 5,000 ft, Nos. 575, 660, and 670; Keno Summit, elevation 6,000 ft, 63°58′N, 135°42′W, No. 719B; Mount Nansen, 62°06′N, 137°17′W, alpine snowbeds, No. 1362. Ogilvie Mountains: Alpine situations along Dempster Highway, Miles 44–45, No. 1447; Miles 50–54, Nos. 80, 96, 143, 208, and 209; A.E. & R.T. Porsild, No. 23,671.

Perhaps the most common member of the genus above the timberline, where it is ubiquitous on moist, neutral, and well-leached snowbed soils. In most populations the male plant is as common as the female.

Antennaria neoalaskana Porsild
Long known only from the type locality in the Richardson Mountains west of the Mackenzie Delta, *A. neoalaskana* has recently turned up elsewhere in the northern Richardson Mountains: 68°08′N, 136°46′W, J.D.H. Lambert, No. 26; 68°20′N, 136°30′W, elevation 3,500 ft, *idem*, No. 23. In each of the two collections that I examined, one plant is male and the other female; both came from the east of the Yukon–Mackenzie border. Two other collections, from a few miles to the east and just inside the Mackenzie District, are Lambert & Morrison, Nos. 65-07-0604 and 65-08-1102; both are female plants. A fifth collection, from Mount Sedgwick in the British Mountains, 68°58′N, 139°01′W, A.M. Pearson, No. 70-27C, consists of two staminate plants.

I reported this species (Porsild 1950*a*:1523) from the Sadlerochit River on the northern slope of Brooks Range (Spetzman, No. 1100). I have since examined three additional Alaskan collections: Mount Fairplay, 63°40′N, 142°05′W, No. 1945; Alaska Range, Mile 14 on Denali Highway, Spetzman, No. 4051; and Ketchumstuk Mountain, *idem*, No. 5165.

Antennaria pedunculata Porsild
This rather striking species was described from the Rose River in southeastern Yukon (Porsild 1950*b*). It is of stoloniferous habit and grows on gravelly river terraces, where it forms mats of up to 1 m in diameter. In common with *A. stolonifera*, its achenes are very hispid, but it differs from that species by its extraordinary, long flowering peduncles and by the very prominent, flat, brown, scarious tips of the cauline leaves. Only the female plant was seen and collected.

I now have a specimen that can only be the male plant of *A. pedunculata*. It came from Babbage River, due east of "Little Trout Lake", Yukon Territory, approximately 69° 00′N, 138°13′W, Lambert & Morrison, 16 July 1965, No. 65-07-1603, CAN No. 308,595.

Antennaria philonipha Porsild
Stewart Plateau: Keno Hill, in alpine herbmats, elevation 5,500–6,065 ft, Nos. 524 and 742. An alpine-arctic snowbed species, in Yukon previously reported from mountains of southeastern Yukon and from the Stewart Plateau (Porsild 1950*b*). The species is also known from the Mackenzie Delta and the east slope of the Richardson Mountains. It will undoubtedly also be discovered in mountains of northern Yukon.

Antennaria stolonifera Porsild
Keno Summit, 63°58′N, 135°42′W, on gravelly solifluction stripes near elevation 6,000 ft, Nos. 719A and 1045. The specimens are a good match for *A. stolonifera* from southeastern Yukon. In addition it has been collected in southwestern Yukon, A.M. Pearson, No. 67-217A, and was reported by Gjaerevoll (1967) from the Alaska Range (Porsild 1951*a*).

Section *Dioicae*
The inner phyllaries papery, white, straw-coloured, or pink, and usually with spatulate-ligulate tips; in our area only the female plants are known.

Antennaria alborosea Porsild
Stewart Plateau: "Highlet Gulch", tributary to Minto Creek, in gravel among willows, elevation 4,000 ft, No. 846; vicinity of Halfway Lakes north of Mayo, edge of abandoned gravel pit, No. 883; Minto Road, 13 miles north of Mayo, No. 909. Ogilvie Mountains: Along Dempster Highway, Miles 96–98, No. 1719 (Porsild 1966: map 137).

A rather attractive and well-marked species, often pioneering on non-alpine, well-drained sites that are not too dry, such as river terraces or gravelly floodplains, where, because of its stoloniferous habit, it often forms mats up to 1 m in diameter. Characteristic of *A. alborosea* are the slender flowering stems, up to 30–35 cm tall and very leafy, that are often bent or S-shaped because of the weight of the rather large, pinkish, and dense flowering head.

Antennaria incarnata Porsild
Vicinity of Mayo, 63°35′N, 135°45′W, on gravelly river terraces, elevation 1,600 ft, No. 694. Described from the Pelly Mountains in southeastern Yukon, *A. incarnata* is also known from a few collections in southwestern Yukon and from Great Bear Lake, Northwest Territories. It is a rather handsome species of matted growth. The flowering heads are rather dense, and their outer bracts are pale pink.

Antennaria isolepis Greene
Stewart Plateau: Keno Summit, in gravelly openings in alpine tundra, elevation 6,000 ft, No. 1034. Ogilvie Mountains: River flats along Dempster Highway, Mile 57, Nos. 133 and 234; Canyon Creek east of Mile 48, No. 450. Subarctic North America from northern Labrador to central Alaska, northward to or slightly beyond the limit of trees.

Antennaria nitida Greene
Vicinity of Mayo, 63°35′N, 135°45′W; common on gravelly river terraces, Nos. 694A, 930, and 1182; Midnight Dome near Dawson, No. 1410A; Mount Gray northeast of Whitehorse, in alpine heath, No. 1345. A western prairie and grassland species, reaching southern Mackenzie District and southern half of Yukon.

Antennaria rosea (Eaton) Greene
Minto Road north of Mayo, 63°41′N, 135° 51′W, open aspen woods, Nos. 650 and 913; Midnight Dome near Dawson, 64°04′N, 139° 42′W, on rocky ledge, No. 1410. Wide-ranging western species, reaching southern Mackenzie District and southern half of Yukon, with a disjunct population in southern James Bay.

Antennaria subviscosa Fern.
Vicinity of Mayo, 63°35′N, 135°45′W, common on gravelly river terraces, Nos. 488, 490, and 522. The series match perfectly the plant reported from southeastern Yukon (Porsild 1951*a*), and, like it, differ from *A. subviscosa* in Gaspé, Quebec, mainly in the smooth rather than papillose achenes. Since 1951, the 1500-mile gap between Gaspé and the nearest western station of *A. subviscosa* has been bridged by collections from the north shore of Lake Superior (Porsild 1966: map 141).

Arnica alpina (L.) Olin ssp. ***attenuata*** (Greene) Maguire
Ogilvie Mountains: Alpine calcareous tundra along Dempster Highway, Mile 81, Nos. 1471, 1478, and 1503; river flats and terraces, Mile 84, Nos. 1680 and 1688; lower slope of limestone hills south of Mile 110, A.E. & R.T. Porsild, Nos. 23,675–76. This is apparently by far the most common Yukon *Arnica,* and it is rarely absent on well-drained calcareous soils of the central Yukon Plateau.

Arnica diversifolia Greene
St. Elias Mountains in southwestern Yukon, in valley south of Serpentine Creek, elevation 4,000 ft, A.M. Pearson, No. 67-337. New to the flora of Yukon.

This species has been reported from Alaska by Maguire (1943:475), without, however, exact locality. In the National Herbarium of Canada there is a fine specimen of *A. diversifolia* from the Alaska Range: Tangle Lake, approximately 63°N, 146°W, O. Gjaerevoll, No. 1315, reported by him as *A. mollis* (1967:48).

Arnica frigida C.A. Mey.
A. louiseana Farr. ssp. *frigida* (Meyer *ex* Iljin) Maguire
Keno Hill, 63°58′N, 135°42′W, alpine tundra, elevation 5,500 ft, No. 729. Ogilvie Mountains: In alpine tundra on river flat along Dempster Highway, Miles 51–52, No. 198. Apparently rare and alpine in central Yukon (Porsild 1966: map 144).

Arnica Lessingii Greene
Mount Haldane, 63°51′N, 135°50′W, edge of snowflush in main cirque, elevation 5,500 ft, No. 595; Keno Summit, 63°58′N, 135°42′W, in alpine tundra, elevation 5,500–6,000 ft, Nos. 733 and 1287. Ogilvie Mountains: Alpine tundra, elevation 4,200 ft, along Dempster Highway, Mile 51, No. 195; Miles 55–56, No. 5; alpine tundra on limestone hill south of Mile 110, A.E. & R.T. Porsild, No. 23,674. A chromosome count based on No. 1287 gave 2n = 57 (Mulligan and Porsild 1969).

Arnica mollis Hook.
This species was first reported from Yukon (Porsild 1951*a*:329) from the upper Rose River in southeastern Yukon; a second and more recent collection from southwestern Yukon came from Serpentine Creek, A.M. Pearson, No. 67-338A.

Hultén (1967:141) stated that a duplicate in Stockholm of the Rose River specimen cited above (*A. mollis,* A.E. Porsild and Breitung, No. 10,583) was misidentified, and is actually *A. amplexicaulis.* A re-examination of the specimen in Ottawa confirmed, however, that it is a perfectly good *A. mollis,* and that, furthermore, the determination was verified in 1947 by Dr. Bassett Maguire.

Artemisia alaskana Rydb.
Ogilvie Mountains: Gravel terrace on mountain east of Dempster Highway, Miles 57–58, elevation 4,800 ft, No. 265. This is a slight northward extension of the Yukon range shown by Porsild (1966: map 145).

Artemisia arctica Less.
Stewart Plateau: "Keno Hill Dome", common in alpine herbmats, Nos. 971, 995, and 1273. A chromosome count of 2n = 18 was obtained from No. 1273 (Mulligan and Porsild 1969). Ogilvie Mountains: Dempster Highway, common on gravelly river flats, Mile 57, No. 369; Dempster Highway, Mile 86, No. 1651; rocky tundra on limestone hills south of Mile 110, A.E. & R.T. Porsild, No. 23,677. Richardson Mountains, 13 miles northeast of Lapierre House, Youngman & Tessier, No. 599. Common everywhere in moist alpine herbmats.

Aster pansus (Blake) Cronq.
A. commutatus sensu Hult., Fl. Alaska & Neighboring Territories. 860 (1968), in part only, not as to illustration and not (Torr. & Gray) A. Gray.
A. elegantulus sensu Hult., *ibid., non* Porsild, Nat. Mus. Can. Bull. 121: 297–98; Pl. 28, figs. 1 and 2 (1951).
Richthofen Creek on west shore of Lake Laberge, growing in dense masses on wet clay banks subject to spring flooding, 3 Aug. 1969, No. 1947; Mile 985 on Alaska Highway east of

Haines Junction, 60°48′N, 136°45′W, Calder & Kukkonen, No. 28,250 (DAO).

Stems one to several, clustered, from a short, erect rootstock; the entire plant glaucous-green and rough-hairy from short, stiff hairs; leaves small and narrow, very numerous; inflorescence racemose, rather dense, with numerous spreading branches, one- to several-headed; phyllaries in 3 series, of unequal length, prominently ciliate, their tips spreading.

Aster pansus is a wide-ranging western grassland species, until now known in Canada only from western Alberta; however, it is also common locally on banks of the Mackenzie River, between latitudes 62°N and 64°N; opposite Simpson, Raup & Soper, No. 9964; willow thickets and sand banks west of Fort Simpson, *iidem,* No. 9866; shelving river banks below Fort Good Hope, Wynne-Edwards, Nos. 8580 and 8616; same place, A.E. Porsild, No. 16,743. The series cited above are all in the National Herbarium of Canada, and were tentatively referred to *Aster falcatus* by Raup (1947); *A. falcatus,* however, as now understood, has a horizontally spreading rhizome, whereas the rhizome of *A. pansus* is short and erect, as is the case with all the specimens cited above.

Hultén's illustration (1968:860) of what he considers *Aster commutatus* was obviously drawn from an isotype of *A. elegantulus* Porsild (A.E. Porsild & Breitung, No. 10,703, from Whitehorse) in the Botanical Museum, Stockholm. Hultén noted (1967:129) that *A. elegantulus* "agrees well with *A. commutatus* (T. & G.) A. Gray", and also cited two "other" specimens said to be *A. commutatus.* The first, Calder & Kukkonen, No. 28,250 (cited above) is definitely *A. pansus*; the second, Calder & Kukkonen, No. 28,087, from Von Wilczek Lakes near Minto on the Yukon River, 62° 42′N, 136°41′W (both in DAO), definitely is not *A. pansus* but is a perfect match for *A. elegantulus,* but not for *A. commutatus,* as represented in the National Herbarium of Canada from grasslands of Saskatchewan and Alberta.

In *A. elegantulus* the stems are slender, 30–40 cm tall, one or several together from a short, compact base. The entire plant is fresh green, not nearly so leafy as *A. pansus,* and the stems and leaves are sparingly downy-pubescent. The inflorescence is open, racemose-paniculate, the very slender branches 3–6 cm long, each bearing one large terminal head and 1–3 smaller lateral heads.

Chrysanthemum integrifolium Richards.
Ogilvie Mountains: Common in alpine tundra on limestone hills, ascending to at least 5,000 ft, along Dempster Highway, Miles 81–83, Nos. 1097, 1480, 1526, and 1617. An arctic-alpine and obligate limestone plant, also noted as common in rocky tundra near Mile 110. In Yukon thus far known only from a few stations.

Crepis nana Richards.
Ogilvie Mountains: Moist sandbars and river flats along Dempster Highway, Miles 56–59, No. 126; near Mile 67, No. 1809, and in similar places near Mile 110, A.E. & R.T. Porsild, No. 23,679.

Erigeron compositus Pursh
Because of its preference for sandy, non-acid soils, the distribution of *E. compositus* in Yukon, as elsewhere, is spotty. It was not seen in the southern and central Ogilvie Mountains, but has been collected in the Porcupine River basin.

No. 550, on dredge tailings near Dawson, differs from typical *E. compositus* by its caespitose habit and long, narrowly cuneate leaves, terminating in 3 shallow lobes and by its pale-purple or pink pappus. It may be a hybrid: *E. purpuratus* × *E. compositus.* Achenes apparently well formed, but appear abortive. Similar, but fertile, plants are known to me from the Alberta Rocky Mountains: Bow River Pass, on shaly slope, elevation 7,200 ft, A.E. Porsild & Breitung, No. 14,938; Bow Pass above Peyto Lake, A.E. Porsild, No. 18,136; Brazeau National Forest, alpine ridges in moist sand, elevation 7,100 ft, *idem,* No. 20,791. In No. 20,791 the pappus is white as are the ligules. In habit all look strikingly different from *E. compositus.* The Rocky Mountain plant is clearly *E. trifidus* Hook. (Hooker 1834:17, pl. 120).

Erigeron elatus Greene
Ogilvie Mountains: Moist tundra along Dempster Highway, Mile 82, elevation 4,200 ft, No. 1117; Bell River near Lapierre House, Youngman & Tessier, No. 264. New northern limit for Yukon.

Erigeron glabellus Nutt. ssp. ***pubescens*** (Hook.) Cronq.
Gravelly hillsides, "Steamboat Slough", Yukon Territory, M.W. Gorman, No. 108; near mouth of Lewis River, 62°N, 18 Aug. 1887, G. Dawson, CAN No. 11,143; flats along Rink Rapid, Yukon River, 19 July 1902, John Macoun, CAN No. 78,994; McQuesten area, river flat one mile east of "Pelly Farm", J.D. Campbell, Nos. 59 and 78, flowering on 14 June 1948; seven miles upstream from junction of Pelly and Yukon rivers, Mickey Lammers, July 1965, CAN No. 289,652; Minto Road, Mile 13 north of Mayo, lake banks, No. 1251; vicinity of Mayo, 63°35′N, 135°45′W, 4 miles east of Stewart Crossing, No. 1389. The Yukon plant is a close match for the plant of western Canada and adjacent United States. In Yukon it is well established along highways and townsites, near existing and former gold-mining camps, and was most likely introduced with shipments of baled hay in the early years of gold mining.

Erigeron grandiflorus Hook. ssp. ***arcticus*** **n. ssp.**
Differt a ssp. grandiflorus caulis 15–25 cm altis, foliis radicalibus oblanceolatis anguste petiolatis usque ad 5–6 cm longis; capitulus 2.5–3.5 cm latus; pedunculus infra capitalum phyllariesque glandibus destitutis.

I have noted (Porsild 1955) that the plant reported as *E. grandiflorus* from Alaska, the Yukon, the Arctic Coast of the Mackenzie District, and the western islands of the Canadian Arctic Archipelago differs consistently from *E. grandiflorus* Hook. of the Alberta Rocky Mountains (Hooker 1834:18, pl. 123), where it was long known only from the type locality, at approximate latitude 53°30′N. The Rocky Mountain plant is well illustrated in Hultén (1968:865), where the figure was drawn from a Rocky Mountain specimen from southern Alberta (A.E. Porsild & Lid, No. 19,314). The arctic plant for which ssp. *arcticus* is now proposed was tentatively described and illustrated (Porsild 1955:181–82; Pl. 22, figs. 1 and 2). The type (CAN) is A.E. Porsild, No. 17,342, Victoria Island, southwest coast, vicinity of Holman Island trading post, 8 Aug. 1949.

In the Yukon *E. grandiflorus* ssp. *arcticus* is known from mountains in the south and southwest and from the Arctic Coast. The following are unreported. Ogilvie Mountains: Mountain east of Dempster Highway, Miles 57–58, in grassy ravine, No. 252. Richardson Mountains: McDougall Pass, Horn Lake, elevation 2,100 ft, Youngman & Tessier, No. 75. A gap of about 1,000 miles separates the areas occupied by ssp. *grandiflorus* and ssp. *arcticus*.

Erigeron humilis Grah.
E. unalaschkensis (DC.) Vierh.
Keno Summit, elevation 5,500–6,000 ft, 63° 58′N, 135°42′W, very common in rich alpine herbmats and snowbed slopes, Nos. 717, 747, and 981. Ogilvie Mountains: Mountains east of Dempster Highway, Miles 50–57, Nos. 90 and 249; damp limestone ledges, Mile 83, elevation 3,800 ft, No. 1516.

Erigeron hyperboreus Greene
E. alaskanus Cronq., Brittonia 6(2):228 (1947).
E. grandiflorus sensu Porsild, Rhodora 41:292 (1939) *non* Hook.
Long known only from the type locality on Porcupine River in northeastern Alaska, *E. hyperboreus* is now known from a number of stations along the Brooks Range of northern Alaska to the Seward Peninsula and to Pastolik, north of the Yukon Delta. Thus far it has been collected in the Yukon only twice, at 65°18′N, 141°00′W (D.D. Cairnes, No. 83,056), and on the lower Firth River south of Herschel Island (June McNeish, CAN No. 236,767). In habit *E. hyperboreus* is somewhat similar to *E. yukonensis* Rydb., described from Dawson, but differs, among other aspects, by the hairs on the involucrum and especially by the hairs on the tip of the phyllaries having purplish-black cross-walls. In *E. yukonensis* and in *E. grandiflorus* the cross-walls are clear and colourless.

Erigeron linearis (Hook.) Piper
Diplopappus linearis Hook.
Southwestern Yukon: Mountain slope on east side of "Big Arm", Kluane Lake, approximately 61°33′N, 138°40′W, 20 Aug. 1944, H.M. & L.G. Raup, No. 12,918, which is a first record for Yukon.

The occurrence in southwestern Yukon of *E. linearis*, disjunct by more than 1,200 miles from the northernmost part of its main range in southwestern British Columbia and Washington, is most unexpected.

Erigeron lonchophyllus Hook.
Haines Road, subalpine slopes south of Dezadeash River, A.E. & R.T. Porsild, No. 22,321;

McQuesten area, Bear Creek, J.D. Campbell, No. 286; vicinity of Minto Bridge, 63°40′N, 135°51′W, No. 648. Ogilvie Mountains: River flats along Dempster Highway, Mile 57, No. 219; moist tundra and gravelly places along Miles 81–83, No. 1603. The last is a new northern limit for Yukon.

Erigeron peregrinus (Pursh) Greene ssp. ***callianthemus*** (Greene) Cronq.
Tincup Lake in southwestern Yukon, approximately 61°50′N, 139°40′W, on a rockslide above the lake, No. 1986.

A cordilleran race, shown from one station in southern-central Alaska and from another in southwestern Yukon on the Alaska Highway near the Alaska border (Hultén 1968:869).

Erigeron purpuratus Greene
Ogilvie Mountains: Solifluction stripes in alpine tundra, elevation 4,200 ft, east of Dempster Highway, Miles 44–46, Nos. 1456–58; gravelly slopes of mountain east of Miles 50–51, elevation 4,200–4,400 ft, No. 1583; gravel ridges along river, Mile 56, Nos. 49 and 278; sandy river flat near Mile 67, No. 1802.

Common locally and forming loose mats from a central taproot from the crown of which issue slender, spreading, and leafy shoots up to 10 cm long; the leaves oblanceolate, 1–2 cm long, the blade 4–5 mm wide, entire or very rarely shallowly toothed near the apex, gradually tapering into a slender petiole; scapes very slender, 3–5 cm long; heads solitary, small, about 1.5 cm in diameter; involucrum viscid under the dense cover of tangled, flat hairs; ligules varying from pure white to pale purple; pappus pink; leaves and scapes viscid under the villous spreading hairs. A chromosome count of 2n = 18 was obtained from No. 1802 (Mulligan and Porsild 1970).

An alpine species endemic in mountains of Alaska, southwestern Yukon, and northernmost British Columbia, closely related to *E. pallens* Cronq. (Cronquist 1947:240). The type of *E. pallens* came from Mount MacDonald near Glacier, British Columbia. This species is common locally on alpine slide-rock slopes in Banff National Park, Alberta (A.E. Porsild & Breitung, Nos. 13,671, 14,013, 14,188, 14,252–53, 14,577, and 15,941). It differs from *E. purpuratus* mainly by the colour of its pappus and ligules, which are yellowish white instead of pale purple.

Erigeron yukonensis Rydb., Bull. N.Y. Bot. Gard. 2(6):185 (1901); Cronq., Brittonia 6(2): 227 (1947); Hult., Fl. Alaska & Yukon 10:1510 (1950) *pro max. pte.*
E. glabellus Nutt. ssp. *pubescens* (Hook.) Cronq. var. *yukonensis* (Rydb.) Hult., Ark. Bot., ser. 2, vol. 7(1):132 (1967).
E. grandiflorus Porsild, Sargentia 4(1):68 (1943) *non* Hook.
In addition to the Yukon specimens cited by Cronquist (1947), *E. yukonensis* is now also known from the Ogilvie Mountains: Dempster Highway, Mile 83, on calcareous, stony tundra, No. 1507; northern Northwest Territories from Dolomite Lake east of upper Mackenzie Delta, 68°39′N, 133°62′W, Dorothy Swales, No. 522; Arctic Coast, Nicholson Island, approximately 70°N, 129°W, A.E. & R.T. Porsild, No. 2950; Tree River, Coronation Gulf, R.E. Miller, No. 165.

A somewhat critical species that has been confused with, or misidentified as, *Aster yukonensis, Erigeron grandiflorus,* and *E. hyperboreus*. In general habit it does resemble *E. hyperboreus,* which, however, appears to be restricted to Alaska. Furthermore, as Cronquist pointed out, in *E. hyperboreus* the hairs on the involucre have black or dark-purple cross-walls, whereas in *E. yukonensis* and *E. grandiflorus* the cross-walls are clear white.

I am unable to follow Hultén in reducing *E. yukonensis* to a variety of the biennial *E. glabellus* ssp. *pubescens*. In his monograph, Cronquist (1947) even places *E. glabellus* ssp. *pubescens* in a different subsection of the genus.

Gnaphalium uliginosum L.
Stewart Plateau: Minto Road, 13 miles north of Mayo, in dry gravel, Nos. 915, 1183, and 1292. An introduced annual, in Yukon collected at Mayo as early as 1944 (J.P. Anderson, No. 9740), and now apparently well established and spreading.

Hieracium gracile Hook.
Mount Haldane, 63°51′N, 135°30′W, near road in bottom of main cirque, elevation 4,300 ft, No. 681; Galena Hill near Calumet and Elsa mines, openings in willow thicket, No. 1172; "Highlet Gulch", tributary to Minto Creek, No. 851; Keno Summit, herbmat slopes, elevation 5,500 ft, No. 1038. Not seen in the Ogilvie Mountains.

Saussurea angustifolia DC. var. ***angustifolia***
Ogilvie Mountains: Limestone hills west of Dempster Highway, Miles 81–82, 64°58′N, elevation 4,200 ft, in turfy places, Nos. 1087, 1130, 1468, and 1546. No. 1130 provided a chromosome count of 2n=52 (Mulligan and Porsild 1969), and No. 1546 was 45 cm tall; moist, stony floodplain below limestone hills south of Mile 110, A.E. & R.T. Porsild, No. 23,680.

Saussurea angustifolia DC. var. ***yukonensis*** Porsild, Nat. Mus. Can. Bull. 121:337 (1951).
Keno Summit, 63°58′N, 135°42′W, herbmat slopes, elevation 5,500 ft, No. 992; in moist alpine heath, elevation 5,500–6,000 ft, No. 1228. Ogilvie Mountains: Damp river meadow along Dempster Highway, Mile 67, No. 1811.

The var. *yukonensis* differs from typical *S. angustifolia* mainly by its dwarf habit; the leaves are usually broader and often with sinuate-dentate margins, but they are never viscid, and the underside may be glabrous or floccose as in *S. angustifolia*. I therefore see no reason for placing the var. *yukonensis* under *S. viscida* Hult., as was done by Hultén (1950, 1968).

Senecio conterminus Greenm.
Ogilvie Mountains: On gravelly slope of mountain east of Mile 57 on Dempster Highway, No. 247; river flats near Mile 60, No. 73. *S. conterminus* and *S. resedifolius* both have glabrous achenes, but in the latter the stems, and often other parts, are strongly tinged with purple; *S. conterminus* is never purplish-tinged, but is grey-green and distinctly floccose-tomentose, especially in the axils of the leaves, but often also on the petioles and flowering stems. A southern population of Alberta and British Columbia is isolated from that of the Yukon and Alaska by a gap of 1,200 miles (Porsild 1966:60, map 155).

Senecio indecorus Greene
S. pauciflorus Pursh var. *fallax* sensu Hult., Fl. Alaska & Neighboring Territories. 930 (1968).
Minto Road, 13 miles north of Mayo, No. 902. A peculiar variation, with slender stems, 6 dm tall, branching irregularly, some from below the middle, with only discoid heads.

Senecio Kjellmanii Porsild, Rhodora 41:299 (1939).
Cineria frigida Richards. f. *tomentosa* Kjellm., Vega Exped. Vetensk. Iakttag. 2:13, pl. 1 (1883) *non Senecio tomentosus* Michx.
S. atropurpureus (Ledeb.) Fedtsch. ssp. *tomentosus* (Kjellm.) Hult., Ark. Bot., ser. 2, vol. 7(1):141 (1967).
The holotype of this species came from St. Lawrence Island in Bering Strait and is a very striking plant, well illustrated in Kjellman (1883: pl. 1); it differs strikingly from *S. atropurpureus* (Ledeb.) Fedtsch. by its dense, brownish-yellow and long-woolly indument that completely covers the upper half of the stem, the uppermost cauline leaves, and the phyllaries of the large, solitary head from 2–4 cm in diameter and 2–3 cm high; the blade of the basal leaves, unlike that of *S. atropurpureus*, is broadly lanceolate and coarsely dentate, and the rootstock is very stout, ascending-erect, and rarely branched.

In 1939 I had seen only a few specimens of *S. Kjellmanii* from Alaska and northern Yukon that fully matched the type. Numerous additional collections are now known from northern Alaska and the Yukon, and from alpine situations in central Alaska, southwestern and central Yukon, and the Richardson Mountains, Northwest Territories. Arctic Slope, Alaska: 69°20′N, 145°00′W, Spetzman, Nos. 618 and 1479. Central Alaska: Eagle Summit 105 miles north of Fairbanks, Galen Smith, No. 2359; Ketchumstuk Mountain west of Chicken, Spetzman, No. 5169; Porcupine Dome, elevation 3,450 ft, Gjaerevoll, No. 1146. Southwestern Yukon: "High Pass" north of "Bridge Creek", 61°35′N, 138°50′W, H.M. Raup, et al., No. 13,849; Amphitheatre Mountain 16 miles west of Burwash Landing, above timberline, elevation 7,000 ft, C.H.D. Clarke, No. 284; same area, Gladstone Creek, Ruby Range, James A. Neilson, No. 1289; Burwash Creek, 61°30′N, 139°17′W, alpine meadow, elevation 4,500 ft, A.M. Pearson, No. 70-5. Central Yukon: Ogilvie Mountains east of Miles 57–58 on Dempster Highway, No. 406. Northern Yukon: British Mountains, Mount Sedgwick, 68°58′N, 139°01′W, A.M. Pearson, No. 70-24B. Mackenzie District: Richardson Mountains west of Mackenzie Delta, A.E. Porsild, No. 6722.

The above series differs strikingly from typical *S. atropurpureus* (Ledeb.) Fedtsch., but throughout the range of *S. Kjellmanii*, specimens do occur that resemble that species in general habit, but lack the dense, yellowish-brown indument. In view of the considerable polymorphy within this plastic group, the taxonomic status of *S. Kjellmanii* may be uncertain; however, the proposed change to ssp. *tomentosus* n. stat. (Kjellm.) Hult. is illegal because of *S. tomentosus* Michx. of the coastal plains of the eastern United States.

Senecio Lindstroemii (Ostf.) Porsild
S. fuscatus sensu Hult., Fl. Alaska & Neighboring Territories. 927 (1968) *non* (Jord. & Fourr.) Hayek. See Porsild 1966:60–61 for a discussion of identity and distribution of the North American plant.
Ogilvie Mountains: On mountain east of Dempster Highway, Miles 51–52, on turfy alpine slopes, elevation 4,500–6,500 ft, Nos. 37, 216, and 1581; same place, Youngman & Tessier, No. 350. Apparently common locally, but in Yukon thus far reported only from the Arctic Coast and the St. Elias Mountains.

Senecio resedifolius Less.
McQuesten area, east slope of White Mountain, elevation 4,800 ft, on talus slope, J.D. Campbell, No. 190; south peak of "Little S. Klondike Syenite Mt.", elevation 6,100 ft, *idem*, No. 699. Ogilvie Mountains: East of Dempster Highway, Miles 57–58, elevation 4,200–6,000 ft, No. 245; dry, calcareous tundra, near Mile 81, No. 1483; limestone hill west of Mile 82 on rocky ledge, No. 1102; damp tundra below limestone hill south of Mile 110, A.E. & R.T. Porsild, No. 23,681.

A dwarf species usually with stems 10–15 cm tall, but in No. 245 several are as tall as 25 cm. Readily distinguished from *S. conterminus* by its deep purplish-tinged phyllaries, glabrous stems, and basal leaves.

Senecio triangularis Hook.
Stewart Plateau: Mount Haldane, near snowbeds along creek, elevation 5,500 ft, No. 680. "Highlet Gulch", tributary to Minto Creek, in damp places by stream, No. 827. Ogilvie Mountains: River flats along Dempster Highway, Miles 51–52, No. 277; on snowflushes west of Mile 58, elevation 3,800 ft, No. 486. A cordilleran–Pacific Coast species of alpine snowbed habitats, probably always growing on soils derived from neutral or acidic rocks. The present collection extends its known Yukon range beyond the Stewart Plateau. As yet not reported from mountains of central Alaska, although it is apparently common in alpine situations along the Pacific Coast of Alaska as far as Kodiak Island.

Senecio yukonensis Porsild
Keno Hill, 63°58′N, 135°42′W, common in alpine meadows and on snowbed slopes, elevation 5,500–6,000 ft, Nos. 539, 740, 1075, and 1272; same place, A.E. & R.T. Porsild, Nos. 23,576–77; Mount Haldane, bottom of main cirque, elevation 5,500 ft, No. 686. Ogilvie Mountains: Damp alpine meadows near Dempster Highway, Miles 55–56, No. 3; among willows near Mile 81, No. 1548. Apparently common in damp alpine meadows of central and northern Yukon and Alaska, but thus far not reported from the St. Elias Mountains.

Taraxacum alaskanum Rydb.
Dwarf species, in habit similar to *T. sibiricum* Dahlst., from which, however, it is at once distinguished by its runcinate-pinnatifid leaves in which the lobes are opposite and entire-margined, the terminal lobe spear-shaped and larger than the lateral. In *T. sibiricum* the leaves are narrowly pinnatifid, and the lobes, and often also the rachis, have one or more small but sharp teeth.

Arctic-alpine: Central Yukon: Canol Road, Miles 10–14, elevation 4,500–6,000 ft, A.E. Porsild & Breitung, No. 11,018; Rose River Pass, elevation 4,000–6,000 ft, *iidem*, No. 10,938; upper Rose River, *iidem*, Nos. 10,529 and 11,945. Southwestern Yukon: Vicinity of Mackintosh, Mile 1022 on the Alaska Highway, Schofield & Crum, No. 8070.

General Range: Amphi-Beringian; east along the Arctic Coast of Alaska to 125°W; south in the Richardson and Mackenzie mountains, in British Columbia slightly beyond 60°N, with a disjunct station in 49°04′N, 120°12′W, but apparently absent in Alberta.

Taraxacum carneocoloratum A. Nels., Amer. J. Bot. 32:290 (1945).
Ogilvie Mountains: Common locally on gravelly riverbanks along Dempster Highway, Miles 55–66, elevation 4,200 ft, flowering on 25 June 1966, No. 50; gravelly river flats and meadows, Miles 67–69, Nos. 1597, 1461, and 1789. A chromosome count from seedlings grown from No. 1789 gave 2n = 32 (Mulligan and Porsild 1970).

An alpine species, until now known only from the type locality in Mount McKinley National Park, Alaska. It differs strikingly not only from other members of the section *Arctica*, but from all arctic and boreal species of the genus by its ligules than are deep pink or flesh-coloured in life, turning dark purple in drying. In our specimens the fruiting scapes are up to 16 cm tall. The involucral bracts are in three distinct rows, the first and second broadly ovate, with a pale-green centre and much paler margins; those of the third and upper row are dark green, gradually tapering to a truncate and scarcely dilated point. The body of the ripe achene is straw-coloured, about 5 mm long, broadest in the middle and spiny in the upper half. New to the flora of Canada.

Taraxacum dumetorum Greene
In Yukon Territory thus far collected only a few times in mountains of the southern parts (Porsild 1951*a*:338).

Taraxacum lacerum Greene
Apparently common in open woods, on riverbanks and lakeshores, and lately also in disturbed soil along roads; north to the Arctic Coast.

***Taraxacum mackenziense* n. sp.**
Planta mediocris ca. 10–30 cm alta; folia oblanceolata vel lingulata, vix 1.0 cm lata, brevissime dentata vel integra; petiolis angustis, anguste-alatis, sat purpureis; involucrum mediocre vel sat parvum, 10–18 mm longum, vulgo sat laete viridi; squamae involucri exteriores erecto-patentes, ovato-lanceolatae, anguste albido-marginatae, sub apice corniculus usque ad 2 mm longis munitae, interiores corniculus minoribus; ligulae marginales albis, extus dilute roseo-purpureae ornatae; antherae parce polliniferae; achenium olivaceo-stramineum, 4 mm longum, superne valde muricato-tuberculatum, rostro ca. 8 mm longo.

By its narrow or subentire leaves, small heads with light-green involucrum, and white ligules that are faintly purplish on the outside, *T. mackenziense* differs from all other *Taraxaca* known to me. Thus far it, has been collected only a few times and only on the east branch of the Mackenzie Delta, by dolomite quarry near Inuvik, with mature achenes on 7 July 1965, Dorothy E. Swales, CAN No. 291,036 (Type: CAN), Plate 13; Richards Island 69°32′N, 133°45′W, on a sandy beach, G.W. Scotter, No. 10,129 (CAN No. 300,244); Mackenzie River, Bear Rock, 64°55′N, 125° 42′W, A.E. & R.T. Porsild, No. 3399 (CAN No. 111,694).

Although thus far known only from the lower Mackenzie River and the Mackenzie Delta, *T. mackenziense* should be looked for in the Yukon Territory, in damp, calcareous habitats.

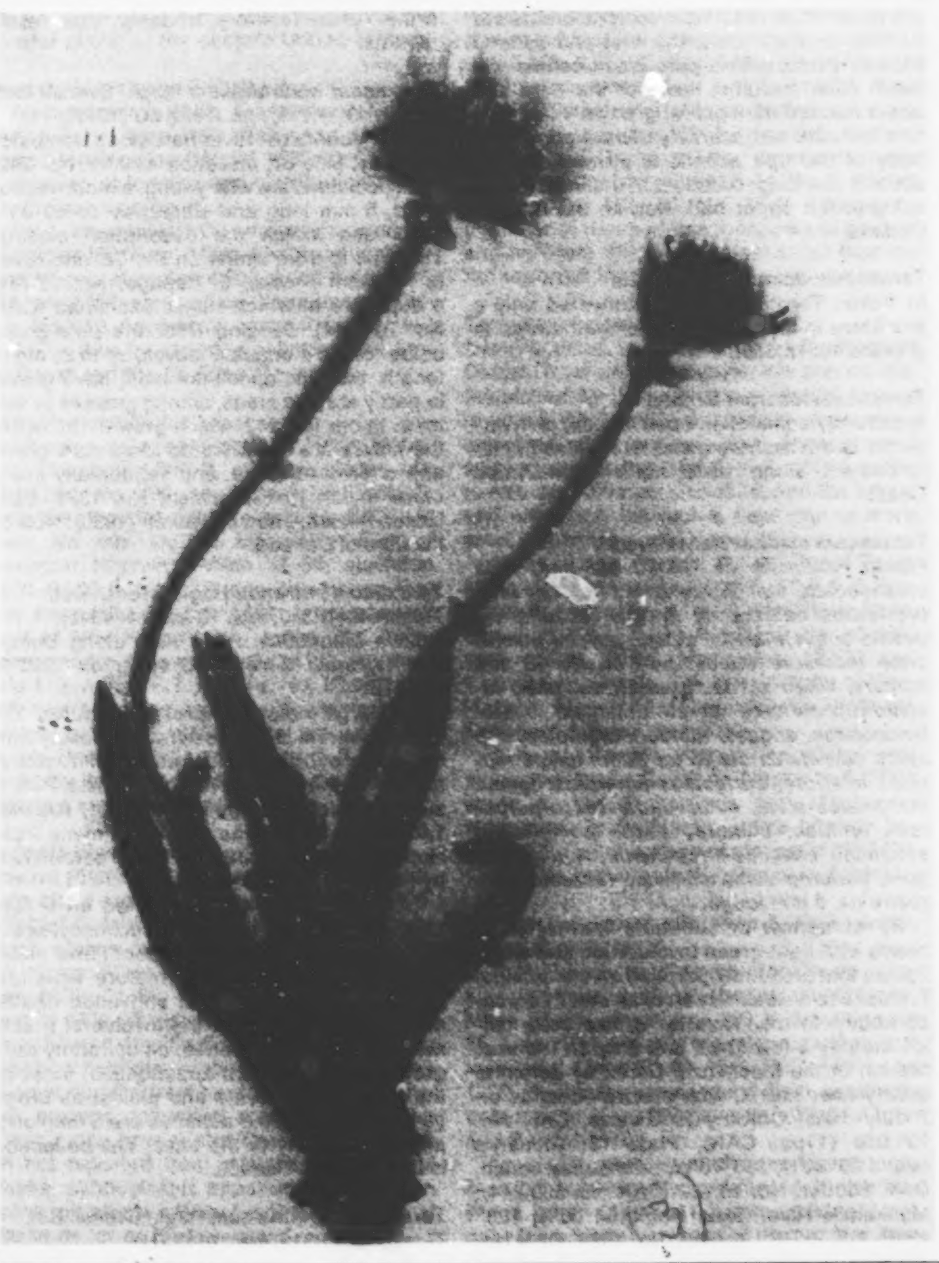
Taraxacum maurolepium Hagl., Svensk Bot. Tidskr. 43(1):111, figs. 2 and 5C (1949).
Ogilvie Mountains: River flats along Dempster Highway, Mile 57, elevation 4,200 ft, No. 242. Our specimens are with young, almost mature fruits, 5 mm long and slate-grey on 19 July 1966, and match the description closely. The type is from Umiat on the Colville River in northern Alaska, E. Lepage, No. 23,784, a duplicate of which I have examined (CAN No. 204,344). Judging from the pale-green colour of the elongated leaves, up to 25 cm in length, the type specimen must have grown in partly shaded areas, among grasses or willows. In our No. 242, which grew in the open, the leaves are one-third as long, dark green and of firmer texture, and incidentally are a close match for Spetzman, No. 1379, from Umiat, Alaska, cited by Hultén (1950). New to the flora of Canada.

Taraxacum mitratum Hagl., Svensk Bot. Tidskr. 40(4):350, figs. 13 and 14 (1946).
Ogilvie Mountains: River flats along Dempster Highway, Miles 55–56, elevation 4,200 ft, No. 128.

The large material represented in No. 128 is very uniform and agrees rather closely with the description and illustrations of *T. mitratum* from the Katmai region, Alaska Peninsula, of which the type is A.E. Miller (US No. 1,072,536), as well as with specimens from Hope, J.P. Anderson, No. 6596, determined by Haglund.

Our specimens were collected on 5 July 1966; among the two dozen specimens, some heads were already in the post-floral state, while several had almost mature achenes. In No. 128 the somewhat shrivelled ligules are now creamy white; the involucral bracts are in three distinct series, all uniformly dark green, with prominent appendages; those of the first row are ovate and almost as broad as they are long; the achenes are 5 mm long, and spiny nearly to the base. The collection is the first from Canada.

Taraxacum multesimum Hagl., Svensk Bot. Tidskr. 43(2):313, fig. 11 (1951).
Known to Haglund only from the type: Alaska, Moose Pass on Kenai Peninsula, along railroad, J.P. Anderson, No. 6490 (S and CAN).



Taraxacum mackenziense **n. sp. (Type)**
Approximately natural size

Another specimen that closely matches the type was collected in southwestern Yukon, in the vicinity of Mackintosh, elevation 4,000 ft, near Mile 1022 on the Alaska Highway, Schofield & Crum, No. 8156. In the Yukon specimen, mature achenes are reddish yellow, spiny in the upper part, the body about 3.0 mm long or about half as long as the beak.

Taraxacum pellianum Porsild, Can. Field-Natur. 64:44 (1950); Porsild, Nat. Mus. Can. Bull 121:339, pl. 38 (1951).
Ogilvie Mountains: In stony, alpine herbmats on mountain east of Dempster Highway, Miles 50–54, elevation 6,000 ft, No. 29. Our specimens perfectly match the type, which came from the Pelly Mountains in southeastern Yukon. *T. pellianum* is now also known from southwestern Yukon (Raup, No. 13,078) and from the lower Mackenzie River and the Mackenzie Delta (Porsild and Cody 1968).

Taraxacum phymatocarpum J. Vahl
In Yukon Territory long known only from Herschel Island on the Arctic Coast. An unreported collection from McDougall Pass in the Richardson Mountains, Northwest Territories, suggests that *T. phymatocarpum* may also turn up in the mountains of northern Yukon Territory.

Taraxacum sibiricum Dahlst.
T. alaskanum sensu Porsild, Nat. Mus. Can. Bull. 121:338 (1951) *pro max. pte.*
Central Yukon: Stewart Plateau, Keno Hill, alpine herbmats, elevation 6,065 ft, No. 516; same place, on south-facing rich herbmat slope, elevation 5,500 ft, Nos. 768 and 996. Ogilvie Mountains: River flats along Dempster Highway, Mile 57, elevation 4,200 ft, No. 105; on snowflushes of mountain east of Miles 50–54, elevation 4,500 ft, No. 170; Canyon Creek, near Mile 48, No. 449.

Arctic-alpine dwarf species of similar habit and habitats as *T. alaskanum*, from which, however, it is easily distinguished by the different cut of its leaves (see *T. alaskanum*).

Long known only from the type locality at the mouth of the Lena River in central Siberia, *T. sibiricum* is now known to be wide-ranging in North America from the Seward Peninsula, Alaska, east to the Mackenzie Mountains, Northwest Territories, and south, again with large gaps, to mountains of interior British Columbia; in Alberta south to latitude 49°N.

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